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MD520 Series General-Purpose AC Drive

Parameter Guide

Industrial Automation | Intelligent Elevator | New Energy Vehicle | Industrial Robot | Rail Transit

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Preface

Introduction

The MD520 series is a general-purpose high-performance vector control AC drive for accurate speed and torque control in high-demand applications. It can drive asynchronous AC induction motors (IM), permanent magnet synchronous motors (PMSM), and synchronous reluctance motors (SynRM). It is also equipped with the STO, limp mode upon fault, position control, and tension control functions.
This guide introduces parameters and fault codes in details.

More Data

Name	Data Code	Description
MD520 Series General-Purpose AC Drive Manual Package	PS00012134	This guide describes product selection, mechanical design, electrical design, installation, communication, commissioning, function application, faults, parameters, certifications, and standards.
MD520 Series General-Purpose AC Drive Quick Installation and Commissioning Guide	19011712	This guide describes the installation, wiring, commissioning, troubleshooting, parameters, fault codes, and others.
MD520 Series General-Purpose AC Drive Hardware Guide	19011713	This guide describes the system composition, technical specifications, components, dimensions, options (including installation accessories, cables, and peripheral electrical components), expansion cards, routine inspection and maintenance, certifications, and standards of the AC drive.
MD520 Series General-Purpose AC Drive Installation Guide	19011714	This guide describes the installation dimensions, space design, specific installation steps, wiring requirements, routing equirements, option installation requirements, and common EMC troubleshooting suggestions.
MD520 Series General-Purpose AC Drive Commissioning Guide	19011715	This guide describes the software tool, commissioning process/procedure, troubleshooting, fault codes, and parameters.
MD520 Series General-Purpose AC Drive Communication Guide	19011716	This guide describes the communication modes, networking, and communication settings of the AC drive.
MD520 Series General-Purpose AC	19011717	This guide describes function application, communication, faults, and parameters of the AC drive.

Drive Function Guide		
MD520 Series General-Purpose AC Drive Safety Function Guide	19011795	This guide describes the safety information, instructions for mechanical and electrical installation, commissioning and maintenance guidance, and safety-related parameters of the AC drive.

Revision History

Date	Version	Software version	Description
2024-09-25	A02	Version: A13 Version tag: F7-10=U60.07/F7-11=U61.11/F7-15=000.00/F7-16=000.00	Corrected minor errors.
2024-08-30	A01	Version: A13 Version tag: F7-10=U60.07/F7-11=U61.11/F7-15=000.00/F7-16=000.00	Corrected minor errors. Added parameter setting descriptions.
2024-03-08	A00	Version: A12 Version tag: F7-10=U60.07/F7-11=U61.10/F7-15=000.00/F7-16=000.00	First release

Access To the Guide

This guide is not delivered with the product. You can obtain the PDF version by the following methods:

- Do keyword search under Service and Support at http://www.inovance.com.
- Scan the QR code on the product with your smart phone.
- Scan the QR code below to install the app, where you can search for and download manuals.

Warranty

Inovance provides warranty service within the warranty period (as specified in your order) for any fault or damage that is caused by proper operation of the user. Maintenance will be charged after the warranty expires.

Within the warranty period, maintenance fee will be charged for the following damage:

● Damage caused by operations not following the instructions in the user guide

● Damage caused by fire, flood, or unusual voltage

● Damage caused by unintended use of the product

● Damage caused by use beyond the specified scope of application of the product

● Damage or secondary damage caused by force majeure (natural disaster, earthquake, and lightning strike)

The maintenance is charged according to the latest Price List of Inovance. If otherwise agreed upon, the terms and conditions in the agreement shall prevail.

For details, see Product Warranty Card.

Contents

1 Parameter List 9

F0 Basic parameters 9
F1 Motor 1 Parameters 25
F2 Vector Control Parameters of Motor 1 33
F3 V/f control parameter 1 42
F4 Input Terminals 61
F5 Output Terminals 92
F6 Start/Stop control 121
F7 Keypad Operation and LED Display 132
F8 Auxiliary functions 148
F9 Fault and Protection 170
FA Process Control PID Function 195
FB Wobble function, Fixed Length and Count 207
FC Multi-reference 216
FD Communication parameters 234
FP Function Code Management 245
A0 Torque Control Parameters 249
A1 Virtual DI/DO 261
A2 Nameplate and Auto-tuning Parameters (1) of Motor 2 310
A3 V/f Control Parameters of Motor 2 327
A4 Control Channels 345
A5 Control Optimization 372
A6 AI Curve Setting 375
A7 Brake Control Parameters 387
A8 Point-to-point Communication 393
A9 Motor parameter 1 395
AA Auxiliary Control Parameters 413
AB Motor Control Parameter 1 435
AC AI/AO Correction 460
B6 Start Control & Protection Parameters of Motor 2 464
B7 Nameplate and Auto-tuning Parameters (2) of Motor 2 483
B8 Control & Protection & Vector Parameters (1) of Motor 2 501
B9 Vector Control Parameters (2) of Motor 2 524
BA Nameplate and Auto-tuning Parameters of Motor 3 551
BB V/f Control Parameters & Vector Parameters (1) of Motor 3 577
BC Control and Protection Parameters of Motor 3 601
BD Motor Observation and Vector Parameters (2) of Motor 3 631
BE Motor Vector Parameters (3) of Motor 3 652
BF Parameters for the Drive 677
C1 bit-word conversion 686

C2 Single-word/Double-word Conversion 707
C3 Logic Operation 713
C4 Arithmetic Operation 739
C5 Switch Function 769
C6 Control Function 795
C7 - Multi-point curve 817
C8 Constant Values 821
C9 Random Monitoring Parameters & Monitoring Parameters & Commissioning Parameters 827
CA Nameplate and Auto-tuning Parameters of Motor 4 837
CB Motor V/f Control Parameters & Vector Parameters (1) of Motor 4 863
CC Motor Control and Protection Parameters of Motor 4 885
CD Motor Observation and Vector Parameters (2) of Motor 4 917
CE Motor Vector Parameters (3) of Motor 4 938
H0 Fault Information 963
H1 Fault Setting Information 968
H2 Fault setting information 973
H3 Fault Information Accessible by Users 984
H4 Fault Information Accessible by Users 988
H5 Fault Information Accessible by Users 991
H6 Fault Information Accessible by Users 995
H7 Fault Information Accessible by Users 999
H8 Fault Information Accessible by Users 1002
U0 Monitoring Parameters 1006
U2 System Information 1019
L0 Bit connector 1 1020
L1 bit connector 2 1029
L2 bit connector 3 1040
L3 bit connector 4 1055
L4 Bit Connector 5 1063
L5 Word Connector 1 1076
L6 Word Connector 2 1090
L7 Word Connector 3 1104
L9 Double-word connector 1 1108
LB Information of Float Connector 1 1110
LC Information of Float Connector 2 1120
LD Information of float connector 3 1126
LE Information of Float Connector 4 1135
2 List of fault codes 1136
3 Description of fault codes 1148
E002.1：Hardware overcurrent 1148
E002.2：Software overcurrent 1149
E005.1：Bus overvoltage 1151
E008.1：Frequent contactor action 1152
E009.1：Undervoltage 1152

E009.3：Pre-drive timeout....1153
E010.1：The drive is overloaded....1154
L010.3：The drive is pre-overloaded....1155
E011.1：Motor overload....1157
E011.2 / L011.2：Motor pre-overload....1157
E012.1 / L012.1：Input phase loss....1158
E013.1：Phase loss occurred on phase-U output....1159
E013.2：Phase loss occurred on phase-V output....1160
E013.3：Phase loss occurred on phase-W output....1160
E014.1：Drive overtemperature....1161
E014.2：Pre-overtemperature occurs on the drive....1161
E015.1：External fault 1....1162
E015.2：External fault 2....1163
E017.1 / L017.1：The buffer contactor is faulty....1163
E018.1：Current detection circuit fault....1164
E019.1：Motor parameter auto-tuning times out....1164
E019.2：Motor parameter auto-tuning interrupted....1165
E019.3：Overcurrent during auto-tuning....1165
E019.4：Back EMF auto-tuning exception....1165
E019.5：Motor type error....1166
E019.6：The current sampling phase-to-phase gain deviation auto-tuning error occurs.1166
E019.7：No-load current auto-tuning overlimit....1167
E020.1 / L020.1：Encoder cable disconnected....1167
E020.2：Encoder PPR error....1168
E020.3：No encoder feedback....1168
E020.4：The encoder direction is wrong....1169
E020.5 / L020.5：Encoder software detection disconnected....1169
E020.6：The absolute position of sin-cos encoder is wrong....1170
E020.7：The Z signal is being disturbed....1171
E020.8：Z signal loss....1171
E020.9：Encoder pulse interference....1172
E021.1：Uninterrupted operation on the EEPROM timeout....1172
E021.2：EEPROM read error....1173
E021.3：An EEPROM write error occurs....1173
E021.4：The number of write-read operations of the EEPROM exceeds the setpoint within 1s. 1174
E021.5 / L021.5：The internal buffer of EEPROM exceeds the limit....1174
E022.1：Encoder card not activated....1175
E023.1：Drive output short-circuited to ground....1175
E025.1：The rectifier is faulty....1176
E026.1：Cumulative operating time reached....1176
E027.1：User-defined fault 1....1176
E027.2：User-defined fault 2....1177
E027.3：User-defined fault 3....1177
E027.4：User-defined fault 4....1178

E028.1：User-defined alarm 1 1178
E028.2：User-defined alarm 2 1178
E028.3：User-defined alarm 3 1179
E028.4：User-defined alarm 4 1179
E029.1：Cumulative power-on time reach 1180
E030.1：Load loss 1180
E031.1：PID feedback loss during running 1180
E031.2 / L031.2：DI terminal disconnected 1181
E032.1 / L032.1：Parameter reset exception 1181
E032.2 / L032.2：Parameter backup exception 1182
E032.3 / L032.3：Parameter power-off exception 1183
E032.4 / L032.4：Parameters setting error 1183
E032.6 / L032.6：Parameter power-on check exception 1184
E032.7 / L032.7：Parameter macro setting error 1184
E040.1：Pulse-by-pulse current limit fault 1185
E042.1 / L042.1：Excessive speed deviation 1186
E043.1 / L043.1：Motor overspeed 1187
E045.1：Motor overtemperature 1187
E045.2 / L045.2：Motor pre-overtemperature 1188
E046.1：Load monitoring motor overload fault 1189
E046.2：Load monitoring motor overload alarm 1189
E046.3：Load monitoring motor load loss fault 1189
E046.4：Load monitoring motor load loss alarm 1190
E047.2：STO trigger inconsistency fault 1190
E047.3：STO power supply fault 1190
E047.4：STO input subsystem fault 1191
E047.5：STO buffer chip fault 1191
E051.1：Pole position auto-tuning error 1192
E055.1 / L055.1：The slave in master-slave control is faulty. 1192
E056.2：VI auto-inspection: IGBT U+ short circuit 1192
E056.3：VI auto-inspection: IGBT U- short circuit 1193
E056.4：VI auto-inspection: IGBT V+ short circuit 1193
E056.5：VI auto-inspection: IGBT V- short circuit 1193
E056.9：System output phase loss - Auto-inspection 1194
E057.1：U phase upper bridge or V phase lower bridge IGBT continuity failure 1194
E057.2：U phase lower bridge or V phase upper bridge IGBT continuity failure 1195
E057.3：V phase upper bridge or W phase lower bridge IGBT continuity failure 1195
E057.4：V phase lower bridge or W phase upper bridge IGBT continuity failure 1195
E057.5：W phase upper bridge or U phase lower bridge IGBT continuity failure 1196
E057.6：W phase lower bridge or U phase upper bridge IGBT continuity failure 1196
E057.7：UV output end short circuit 1196
E057.8：VW output end short circuit 1197
E057.9：WU output end short circuit 1197
E058.1：Module U phase current sensor inversely installed 1198

E058.2：Module V phase current sensor inversely installed 1198
E058.3：Module W phase current sensor inversely installed 1199
E058.4：Module UV phase sensor incorrectly inserted 1199
E058.5：Module VW phase sensor incorrectly inserted 1199
E058.6：Module WU phase sensor incorrectly inserted 1200
E059.1：VW phase imbalance 1200
E059.2：UW phase imbalance 1201
E059.3：UV phase imbalance 1201
E061.1：Braking transistor overload 1201
E062.2：Braking transistor short-circuited 1202
E062.3：Braking transistor overcurrent 1202
E063.1：External alarm 1 1203
E063.2：External alarm 2 1203
E064.1 / L064.1：Water-cooling fault 1204
E066.1 / L066.1：Low-liquid fault 1204
E067.1：Capacitor leakage occurs. 1205
E084.1：The brake cannot be released. 1205
E084.2：The brake cannot be closed. 1205
E085.4：Timing fault 1206
E093.1 / L093.1：Motor stall fault 1206
E093.2：Motor stall 1207
E093.3：Current control exception 1208
E094.1：Inconsistency between calculated and set number of pole pairs 1208
E094.2：Motor power/voltage/current mismatch 1209
E094.3：No-load current range error 1209
E094.4：The Lm (mutual inductance) and I0 (no-load current) do not comply with the rated voltage. 1209
E094.5：Rotor resistance setting range exception 1210
E094.7：Mismatch between the numbers of pole pairs of the resolver and synchronous motor 1210
E159.1：Auto reset failure 1211
E160.1 / L160.1：Modbus communication times out. 1211
E161.1 / L161.1：The CANopen heartbeat times out. 1212
E161.2 / L161.2：CANopen PDO mapping 1212
E162.1 / L162.1：CANlink heartbeat timeout 1213
E162.2 / L162.2：CANlink station number conflict 1214
E164.1 / L164.1：Expansion card fault 1214
E174.1 / L174.1：HDI wire breakage 1215
E174.3 / L174.3：AI1 Input exception protection 1216
E174.4 / L174.4：AI2 Input exception protection 1216
E174.5 / L174.5：AI3 Input exception protection 1217

1 Parameter List

F0 Basic parameters

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-00	Load type	0xF000	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Value: 0: Heavy load application 1: Light load application							
	Description: This parameter is used to display the load type of the AC drive. 0: Heavy load application Heavy load application: constant-torque load Such loads are conveyor belt and cranes, for example. 1: Light load application Light load application: variable-torque load, such as fans and water pumps							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-01	Motor 1 control mode	0xF001	Refer to "Value"	2	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: SVC 1: FVC 2: V/f							
	Description: Used to set the motor control mode based on the application scenario and motor type. 0: Sensorless vector control (SVC) Indicates open-loop vector control, which is applicable to high-performance control applications. In this case, one AC drive can drive only one motor. This mode applies to such loads as machine tools, centrifuges, wire drawing machines, and injection molding machines. Parameter auto-tuning is required in the FVC mode. The effect of the vector control mode is dependent on accurately tuned motor parameters.							

	1: Feedback vector control (FVC) Indicates closed-loop vector control. The motor must be configured with an encoder and the AC drive provides the PG card (optional) matching the encoder type. This mode is applicable to high-accuracy speed control or torque control applications, where one AC drive can drive only one motor. It is used for loads such as high-speed paper-making machinery, hoisting machinery, and elevators. Parameter auto-tuning is required in the FVC mode. The effect of the vector control mode is dependent on accurately tuned motor parameters. 2: V/f control (open loop speed control) The V/f control mode is applicable to applications that require undemanding control performance on loads, such as fans and pumps. If one AC drive is used to control multiple motors, only the V/f control mode can be used. Motor parameters must be set accurately in this mode. If one AC drive needs to drive multiple motors, the total current and total power must be determined.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-02	Command source	0xF002	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value： 0： Operating panel 1： Terminal 2： Communication 3： Customized							
	Description： This parameter is used to select the input channel of the AC drive control commands, The control commands of the drive include the start, stop, forward run, reverse run, and jog commands. 0: Operating panel The RUN/STOP key on the operating panel can be used to start or stop the drive. This mode is suitable for initial commissioning. 1: Terminals Control commands are input through the DI terminals of the AC drive. The DI terminal control commands can be set according to different scenarios, such as start/stop, forward and reverse run, jog, two-wire and three-wire operation mode, multi-speed and other functions. It is suitable for most applications. 2: Communication Control commands are input through remote communication. The AC drive must be equipped with a communication card to realize communication with the host controller. This mode is suitable for remote control or centralized control on multiple equipment. 3: Customized command channel The command source is defined by the user as needed for expansion.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

<table>
<tr><td rowspan="3">F0-03</td><td>Main frequency source X</td><td>0xF003</td><td>Refer to "Value"</td><td>0</td><td>Unsigned 16 bit</td><td>Shutdown change</td><td>General user</td><td>Effective in real time</td></tr>
<tr><td colspan="8">Value：
0： Digital setting (non-retentive at power failure)
1： Digital setting (retentive at power failure)
2： AI1
3： AI2
4： AI3
5： Pulse reference (DI5)
6： Multi-reference
7： Simple PLC
8： PID
9： Communication setting
Others： F connector</td></tr>
<tr><td colspan="8">Description：
This parameter is used to set the source of the main frequency X as below.
0: Digital setting (non-retentive at power failure)
The initial value of the frequency reference is the value of F0-08 (Preset frequency). The frequency can be changed by using the ▲ and ▼ keys on the keypad or the multi-functional input terminal functioning as the UP/DOWN key. When the AC drive is powered on again after a power failure, the frequency reference is restored to the value of F0-08.
1: Digital setting (retentive upon power failure)
The initial value of the frequency reference is the value of F0-08 (preset frequency). The frequency can be changed by using the ▲ and ▼ keys on the keypad or the multi-functional input terminal functioning as the UP/DOWN key. When the AC drive is powered on again after a power failure, the frequency reference is the same as that at the moment of the last power failure. Modifications made by using keys ▲ and ▼ keys on the operating panel or the multi-functional input terminal functioning as the UP and DOWN key remain effective.
2: AI1
The frequency reference is input by current or voltage signal through AI1. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4.
3: AI2
The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4.
4: AI3
The frequency reference is input by voltage signal through AI3. The frequency is calculated according to the AI curve. AI curves can be set in parameter group F4.
5: Pulse reference (DI5)
The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency (F4-28 to F4-31).
6: Multi-reference
In the multi-reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals (assigned with functions 12 to 15) can provide 16 states, corresponding to 16 frequencies (set by FC-00 to FC-15).
7: Simple PLC
Simple PLC is a multi-speed operation instruction that can control the operation time and acceleration and deceleration time. Parameters FC-00 to FC-15 are used to set the values of each frequency. FC-18 to FC-49 are used to set the running time and acceleration and deceleration time of each frequency. Up to 16 speeds can be set.</td></tr>
</table>

	8: PID PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control. Set PID-related parameters in group FA. 9: Communication The main frequency is set through communication. This mode is applicable to applications requiring remote control or centralized control of multiple devices. In this mode, you can input the frequency through remote communication (address 0x7310). In this case, the AC drive must be installed with a communication card for communicating with the host controller. Others: F connector A parameter No. is set for a float connector, and the value of the connector is read as the auxiliary frequency reference. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-04	Auxiliary frequency source Y	0xF004	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: Digital setting (non-retentive at power failure)
1: Digital setting (retentive at power failure)
2: AI1
3: AI2
4: AI3
5: Pulse reference (DI5)
6: Multi-reference
7: Simple PLC
8: PID
9: Communication setting
Others: F connector

Description:

Used to set the source of the auxiliary frequency source Y, as shown below.

0: Digital setting (non-retentive at power failure)

The initial value of the frequency reference is the value of F0-08 (Preset frequency). The frequency can be changed by using the ▲ and ▼ keys on the keypad or the multi-functional input terminal functioning as the UP/DOWN key. When the AC drive is powered on again after a power failure, the frequency reference is restored to the value of F0-08.

1: Digital setting (retentive upon power failure)

The initial value of the frequency reference is the value of F0-08 (preset frequency). The frequency can be changed by using the ▲ and ▼ keys on the keypad or the multi-functional input terminal functioning as the UP/DOWN key. When the AC drive is powered on again after a power failure, the frequency reference is the same as that at the moment of the last power failure. Modifications made by using keys ▲ and ▼ keys on the operating panel or the multi-functional input terminal functioning as the UP and DOWN key remain effective.

2: AI1

The frequency is input by the voltage signal through AI1. The frequency is calculated according to the preset AI curve. The AI curve is set by parameters in group F4.

	3: AI2 The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve. The AI curve is set by parameters in group F4. 4: AI3 The frequency reference is input by voltage signal through AI3. The frequency is calculated according to the AI curve. The AI curve is set by parameters in group F4. 5: Pulse reference (DI5) The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency (F4-28 to F4-31). 6: Multi-reference In the multi-reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals (assigned with functions 12 to 15) can provide 16 states, corresponding to 16 frequencies (set by FC-00 to FC-15). 7: Simple PLC Simple PLC is a multi-speed operation command that can control the operation time and acceleration and deceleration time. Parameters FC-00 to FC-15 are used to set the values of each frequency. FC-18 to FC-49 are used to set the running time and acceleration and deceleration time of each frequency. Up to 16 speeds can be set. 8: PID PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control. Set PID-related parameters in group FA. 9: Communication The main frequency is set through communication. This mode is applicable to applications requiring remote control or centralized control of multiple devices. In this mode, you can input the frequency through remote communication (address 0x7310). In this case, the AC drive must be installed with a communication card for communicating with the host controller. Others: F connector A parameter No. is set for a float connector, and the value of the connector is read as the auxiliary frequency reference. This mode is used for expansion besides the common sources. Note: If this parameter cannot be set to the desired value, check whether F0-03 is set repeatedly.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-05	Base value of range of auxiliary frequency source for superposition	0xF005	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value： 0： Relative to maximum frequency 1： Relative to main frequency X							
	Description：							

Defines the base value of frequency source range ratio.

0: Relative to maximum frequency

The auxiliary frequency at superposition is equal to the auxiliary frequency source range (F0-06) x maximum frequency (F0-10).

1: Relative to frequency source X

The auxiliary frequency at superposition is equal to the auxiliary frequency source range (F0-06) x main frequency source X.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-06	Range of auxiliary frequency source Y for superposition	0xF006	0%~150%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

Defines the range of auxiliary frequency source Y.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-07	Frequency source superposition	0xF007	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Frequency reference selection	0: Main frequency reference X 1: Main and auxiliary calculation result (based on tens position) 2: Switchover between main frequency source X and auxiliary frequency source Y 3: Switchover between main frequency source X and main and auxiliary calculation result 4: Switchover between auxiliary frequency source Y and main and auxiliary calculation result
Tens position	Main and auxiliary frequency operation	0: Main + Auxiliary 1: Main - Auxiliary 2: Max. (main, auxiliary) 3: Min. (main, auxiliary)

Description:

Defines the superposition mode of the main frequency source X and auxiliary frequency source Y.

Ones: Frequency reference selection

0: Main frequency source X

The operating frequency of the AC drive is directly set by the main frequency source X (F0-03).

1: Main and auxiliary calculation result (based on tens)

	The operating frequency of the AC drive is set by the calculation result of the main and auxiliary frequencies, and the calculation method is determined by the tens of the value of F0-07. 2: Switchover between main frequency source X and auxiliary frequency source Y The operating frequency of the AC drive is selected or switched between the main frequency reference X and the auxiliary frequency source Y through the DI terminal. In this case, the function of the DI terminal must be set to the frequency source switching function. If the DI2 terminal is used for switchover, set F4-01 to 18. 3: Switchover between main frequency reference X and operation result of X and Y The operating frequency of the AC drive is selected or switched between the main frequency reference X and operation result of X and Y. If the DI2 terminal is used for switchover, set F4-01 to 18. 4: Switchover between auxiliary frequency reference Y and operation result of X and Y The operating frequency of the AC drive is selected or switched between the auxiliary frequency reference Y and operation result of X and Y. If the DI2 terminal is used for switchover, set F4-01 to 18. Tens: 0: Main + Auxiliary The main and auxiliary operation result is the product of main frequency source X plus the auxiliary frequency source Y. 1: Main - Auxiliary The main and auxiliary operation result is the product of main frequency source X minus the auxiliary frequency source Y. 2: Max. (main, auxiliary) The main and auxiliary operation result is the larger value between the main frequency source X and the auxiliary frequency source Y. 3: Min. (main, auxiliary) The main and auxiliary operation result is the smaller value between the main frequency source X and the auxiliary frequency source Y.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-08	Preset frequency	0xF008	0.00Hz~F0-10	50.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the frequency source is "Digital setting" (F0-03 = 0), the value of this parameter is the target frequency of the drive.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-09	Running direction	0xF009	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Default direction 1: Opposite to the default direction							
	Description:							

	You can change the rotation direction of the motor by modifying this parameter without changing the motor wiring. Modifying this parameter is equivalent to exchanging any two of the motor's U, V, W wires.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-10	Maximum frequency	0xF00A	5.00Hz~599.00Hz	50.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter defines the maximum output frequency of the AC drive.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-11	Source of frequency upper limit	0xF00B	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: F0-12 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication reference Others: F connector							
	Description: Defines the source of frequency upper limit. 0: F0-12 (Frequency upper limit) The frequency upper limit is set by F0-12. 1: AI1 The frequency upper limit is input by current or voltage signal through the AI1. The frequency is calculated according to the preset AI curve. 2: AI2 The frequency upper limit is input by current or voltage signal through the AI2. The frequency is calculated according to the preset AI curve. 3: AI3 The frequency upper limit is input by current or voltage signal through the AI3. The frequency is calculated according to the preset AI curve. 4: Pulse reference (DI5) The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the maximum frequency. 5: Communication The frequency upper limit is set through communication. Others: F connector The frequency upper limit is set through the connector. Read the connector value through setting the parameter No. of a							

	float connector. The value being read is used as the frequency upper limit. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-12	Frequency upper limit	0xF00C	F0-14~F0-10	50.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the maximum running frequency allowed for the motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-13	Frequency upper limit offset	0xF00D	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the offset of the frequency upper limit. It is used to adjust the output frequency upon minimum frequency reference signal when the frequency is set by an external analog signal (voltage or current). Note: When the upper frequency source is selected as non-digital timing, the upper frequency offset is valid.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-14	Frequency lower limit	0xF00E	0.00Hz~F0-12	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the minimum operating frequency of motors. If the frequency is lower than the lower limit, you can determine whether to stop, run at the lower limit, or run at zero speed by F8-14.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-15	Carrier frequency	0xF00F	0.5kHz~20.0kHz	6.0kHz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The carrier frequency of the AC drive determines the number of times the power switching device (such as IGBT) of the inverter is turned on and off, so it is also called switching frequency. It mainly affects the following items: The power loss of the power module IGBT is related to the carrier frequency. As the carrier frequency increases, the power loss increases and the heating of the power module increases, which is unfavorable to the AC drive. When the carrier frequency is high, the current waveform is sinusoidal and smooth. In this way, the harmonic wave is small,							

	but the interference is relatively large, and vice versa. When the carrier frequency is too low, the effective torque of the motor decreases, the loss increases, and the temperature rises. On the contrary, when the carrier frequency is too high, the loss of the AC drive increases, the IGBT temperature rises, and the change rate dv/dt of the output voltage increases, which affects the motor insulation performance. Note: The default carrier frequency of F0-15 is related to the power range of the AC drive. The higher the power of the AC drive, the lower the default value of F0-15.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-16	Carrier frequency adjusted with temperature	0xF010	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: No 1: Yes							
	Description: This parameter indicates whether the carrier frequency changes with the temperature. It is used to set whether the carrier frequency is adjusted based on the temperature. The AC drive automatically reduces the carrier frequency when detecting that the heatsink temperature is high. The AC drive resumes the carrier frequency to the set value when the heatsink temperature becomes normal. This function reduces the overtemperature alarms. This function is not enabled by default for synchronous motors.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-17	Acceleration time 1	0xF011	0.0s~6500.0s	20.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter indicates the time required for the output frequency to increase from 0 to the value of F0-25. The acceleration time is usually determined by the rising of frequency setting signal. When the motor accelerates, the rising rate of the frequency reference must be limited to prevent overcurrent. Acceleration time setting requirements: The acceleration current must be limited below the overcurrent capacity of the AC drive, so as not to cause the AC drive to trip due to overcurrent stall.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-18	Deceleration time 1	0xF012	0.0s~6500.0s	20.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

This parameter indicates the time required for the output frequency to decrease from the value of F0-25 to 0. The deceleration time is usually determined by the falling of frequency setting signal. When the motor decelerates, the dropping rate of the frequency must be limited to prevent overvoltage.
Deceleration time setting requirements: Avoid too large smoothing circuit voltage, so as not to cause the AC drive to trip due to overvoltage stall.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-19	Acceleration/Deceleration time unit	0xF013	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: 1s
1: 0.1s
2: 0.01s

Description:
Three acceleration/deceleration units are available. When this parameter is modified, the decimal places of related acceleration/deceleration time parameters change, and the corresponding acceleration/deceleration time changes accordingly.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-20	Offset frequency source	0xF014	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: F0-21
1: AI1
2: AI2
3: AI3
4: Pulse reference
5: Communication
6: Multi-reference
7: Motor-driven potentiometer
8: PID
0: F-connector

Description:
Used to set different sources of offset frequencies, which can be set according to actual application
0: Digital setting
The initial value of the frequency is the value of F0-21.
1: AI1
The frequency reference is input by current or voltage signal through AI1. The frequency is calculated according to the preset AI curve.
2: AI2
The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve.

	3: AI3 The frequency reference is input by current or voltage signal through AI3. The frequency is calculated according to the preset AI curve. 4: Pulse reference (DI5) The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency. 5: Communication The main frequency is set through communication. Frequency reference is input through remote communication. The AC drive must be equipped with a communication card to realize communication with the host controller. This mode is suitable for remote control or centralized control on multiple equipment. 7: Motorized potentiometer The real-time target speed is set by the motorized potentiometer module output (FB-20 to FB-39). 8: PID PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control. Others: F connector A function code is set for a float connector, and the value of the connector is read as the offset frequency. This mode is used for expansion besides the common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-21	Offset frequency	0xF015	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the offset frequency, which is used to adjust the reference value when the main/auxiliary frequency is set through external analog signal (voltage or current). Output frequency = (Current frequency reference+F0-21) Note: The offset frequency is also valid when the main/auxiliary frequency is set by other sources.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-22	Decimal places of frequency reference	0xF016	Refer to "Value"	2	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 1: 0.1 Hz 2: 0.01 Hz							
	Description:							

	Defines the number of decimal places of frequency references. 1: 0.1 Hz 2: 0.01 Hz

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-23	Retention of digital setting upon stop	0xF017	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Retention of digital setting upon stop 0: Non-retentive If F0-08 (Preset frequency) is set through the operating panel and the frequency is modified through the ▲ and ▼ keys or terminals UP/DOWN, the modification is cleared after the AC drive stops. 1: Retentive If F0-08 (Preset frequency) is set through the operating panel and the frequency is modified through the ▲ and ▼ keys or terminals UP/DOWN, the modification is retained after the drive stops.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-24	Motor parameter group	0xF018	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Motor parameter group 1 1: Motor parameter group 2 2: Motor parameter group 3 3: Motor parameter group 4							
	Description: Used to set current active motor parameter group. 0: Motor parameter group 1 Used to select motor parameter group 1. 1: Motor parameter group 2 Used to select motor parameter group 2. 2: Motor parameter group 3 Used to select motor parameter group 3. 3: Motor parameter							

	Used to select motor parameter group 4. Note: Alternatively, you can switch the motor parameter group through DI terminals 41 and 76. You can view the active motor parameter through U2-00. Note that switchover is successful only when the AC drive is in the stop state.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-25	Acceleration/Deceleration time base frequency	0xF019	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Maximum frequency (F0-10) 1: Frequency reference 2: 100 Hz 3: Rated frequency							
	Description: This parameter sets the acceleration/deceleration time base frequency. This parameter defines the target frequency during acceleration and the starting frequency during deceleration.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-26	Base frequency for UP/DOWN modification during running	0xF01A	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Running frequency 1: Frequency reference							
	Description: Used to set the base frequency from which the frequency reference is modified by using the UP/DOWN keys on the operating panel. This parameter is active only when the frequency source is digital setting.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-27	Frequency reference source bound to command source	0xF01B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: Bit | Name | Value							

Ones	Operating panel bound to frequency source	0: Not bound 1: Digital setting 2: AI1 3: AI2 4: AI3 5: Pulse setting 6: Multi-reference 7: Simple PLC 8: PID 9: Communication setting
Tens	Frequency source bound to terminal commands	0: Not bound 1: Digital setting 2: AI1 3: AI2 4: AI3 5: Pulse setting 6: Multi-reference 7: Simple PLC 8: PID 9: Communication setting
Hundreds	Frequency source bound to communication commands	0: Not bound 1: Digital setting 2: AI1 3: AI2 4: AI3 5: Pulse setting 6: Multi-reference 7: Simple PLC 8: PID 9: Communication setting

Description：

Used to bind the three running command sources with the nine frequency sources, facilitating to implement synchronous switchover.

For details on the frequency sources, see the description of F0-03 (Main frequency source X selection).

Different running command sources can be bound to the same frequency source.

If a command source has a bound frequency source, the frequency source set in F0-03 to F0-07 no longer takes effect when the command source is effective.

0: Not bound

1: Digital setting

The initial value of the frequency reference is the value of F0-08.

2: AI1

The frequency is input by current or voltage signal through the AI1. The frequency is calculated according to the preset AI

curve.

3: AI2

The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve.

4: AI3

The frequency reference is input by current or voltage signal through AI3. The frequency is calculated according to the preset AI curve.

5: Pulse reference (DI5)

The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency.

6: Multi-speed reference

In the multi-speed reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals can provide 16 states, corresponding to 16 frequencies.

7: Simple PLC

Simple PLC is a multi-speed operation command that can control the operation time and acceleration and deceleration time. Parameters FC-00 to FC-15 are used to set the values of each frequency. FC-18 to FC-49 are used to set the running time and acceleration and deceleration time of each frequency. Up to 16 speeds can be set.

8: PID

PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control.

9: Communication

The main frequency is set through communication. The frequency can be input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-28	Communication protocol	0xF01C	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Modbus protocol 1: Expansion communication protocol 2: Inobus protocol of EtherCAT card							
	Description: Different communication protocols are supported. 0: Modbus protocol The Modbus protocol is used.							

	1: Expansion communication protocol PROFIBUS DP, PROFINET, EtherCAT, Modbus TCP, and EtherNet/IP protocols can be used. No setting is required for CANlink because it is always valid. 2: Inobus protocol of EtherCAT card When this parameter is set to 2, the Inobus communication protocol is used. The AC drive version must be F7-10 = U60.07/F7-11 = U61.07/F7-15 = 000.00/F7-16 = 000.00 or later.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F0-29	Load type	0xF01D	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Heavy load application 1: Light load application							
	Description: Set accordingly based on the load type. 0: Heavy load application Heavy load application: constant-torque load Such loads are conveyor belt and cranes, for example. 1: Light load application Light load application: variable-torque load, such as fans and water pumps							

F1 Motor 1 Parameters

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-00	Motor type	0xF100	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Asynchronous motor 1: Variable frequency asynchronous motor 2: Permanent magnet synchronous motor 3: Reluctance motor 4: Electromagnetic coil							
	Description: This parameter is used to set the motor type. 0: Common asynchronous motor A common asynchronous motor is suitable for applications with normal voltage but often full load. Designed on constant frequency and constant voltage, they are impossible to meet all frequency control requirements. 1: Variable frequency asynchronous motor							

	A variable frequency motor can adjust its frequency and speed according to the load. When the voltage is low, the variable frequency motor can reduce the frequency for a reliable start. When the load is light, it can reduce the frequency, speed, and current to save electric energy. 2: Permanent magnet synchronous motor A permanent magnet synchronous motor provides excitation with a permanent magnet. It features simple structure, small size, high efficiency, and high power factor. 3: Reluctance motor without permanent magnet The reluctance motor is a synchronous motor without permanent magnet, whose torque output is totally from the magnetic reluctance torque generated from q-axis and d-axis inductance difference. 4: Electromagnetic coil The electromagnetic coil is generally an inductive coil used for applications such as electromagnetic suction force and heating.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-01	Rated motor power	0xF101	0.1kW~1000.0kW	3.7kW	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter indicates the power of the motor during normal operation. The rated power of the motor is the rated voltage x rated current of the motor. Select a motor with a proper power rating on the premise that the motor can meet the requirements of mechanical load. Take the motor heat dissipation, allowable overload capacity, and starting capacity into account.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-02	Rated motor voltage	0xF102	1V~2000V	380V	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated motor voltage indicates the voltage of the motor during normal operation, which usually refers to the line voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-03	Rated motor current	0xF103	0.01A~655.35A	9.00A	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated motor current indicates the current of the motor during normal operation, which usually refers to the line current. For models with the power of 55 kW and below, two decimal places are displayed, such as 0.01 A to 655.35 A. For models with the power above 55 kW, one decimal place is displayed, such as 0.1 A to 6553.5 A.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F1-04	Rated motor frequency	0xF104	0.01Hz~F0-10	50.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated motor frequency indicates the frequency of the power supply connected to the stator winding under the rated operation conditions of the motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-05	Rated motor speed	0xF105	1rpm~65535rpm	1460rpm	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated motor speed indicates the speed (in the unit of rpm) of the rotor under the rated operating conditions.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-06	Asynchronous motor stator resistance	0xF106	0.001Ω~65.535Ω	1.204Ω	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter indicates the DC resistance of stator winding of the asynchronous motor. This parameter can be obtained through motor auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-07	Asynchronous motor rotor resistance	0xF107	0.001Ω~65.535Ω	0.908Ω	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The motor rotor resistance is the DC resistance of the motor rotor winding, which can be obtained through motor static or dynamic auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-08	Asynchronous motor leakage inductance	0xF108	0.01mH~655.35mH	5.28mH	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The leakage inductance of the asynchronous motor is caused by the leakage flux of motor winding. This parameter can be obtained through motor auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-09	Asynchronous motor mutual inductance	0xF109	0.1mH~6553.5mH	156.8mH	Unsigned 16 bit	Real time changes	General user	Effective in real time

	Description: When the current in one coil of the motor changes, induced EMF is generated in the coil adjacent to it. This mutually induced EMF can be expressed by mutual inductance. The mutual inductance of a motor can be roughly divided into two types. One is the inter-phase inductance of the stator or rotor, which is the reactance between two phases of the stator or rotor. The other is the inductance between the stator and the rotor. The inductance of the first type does not change with the rotation of the rotor, whereas the inductance of the second type changes accordingly with the rotation of the rotor. Both types are motor mutual inductance, which can be obtained by dynamic motor auto-tuning.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-10	Asynchronous motor no-load current	0xF10A	0.01A~F1-03	4.20A	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter indicates the current that passes through the three-phase winding of the stator during no-load operation of the asynchronous motor. The parameter can be obtained by dynamic motor auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-16	Synchronous motor stator resistance	0xF110	0.001Ω~65.535Ω	1.204Ω	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the DC resistance of stator winding of the synchronous motor. This parameter can be obtained through motor auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-17	Synchronous motor D axis inductance	0xF111	0.01mH~655.35mH	5.28mH	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the inductance of the main magnetic pole axis (longitudinal axis) of the synchronous motor. Note: When the power is lower than or equal to 55 kW, the value has two decimal places. When the power is larger than 55 kW, the value has three decimal places.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-18	Synchronous motor Q axis inductance	0xF112	0.01mH~655.35mH	5.28mH	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the inductance of the center line (quadrature axis) between the adjacent magnetic pole axes of synchronous motor robot.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
F1-20	Back EMF of synchronous motor	0xF114	0.0V~6553.5V	350.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the RMS value of the motor back EMF at the rated frequency (F1-04)							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-27	Encoder PPR	0xF11B	1~65535	1024	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter sets the number of ABZ encoder PPR (total AB pulses per revolution/4), or number of waves per revolution of the sin-cos encoder. In the FVC mode, the encoder PPR must be set properly. Otherwise, the motor cannot run normally. Note: The encoder PPR does not need to be set for the 23-bit encoder.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-28	Encoder type	0xF11C	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: ABZ incremental encoder 1: 23-bit encoder 2: Resolver 3: External input 4: Sin-Cos encoder							
	Description: After the PG card is installed, you need to set this parameter properly according to the on site encoder type to ensure normal running of the AC drive. 0: ABZ incremental encoder 1: 23-bit encoder 2: Resolver 3: External input 4: Sin-cos encoder							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-29	Speed feedback PG card	0xF11D	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Main PG card 1: Auxiliary PG card							
	Description: This parameter is used to select the speed measuring angle source.							

	0: Main PG card The main PG card is used to measure the speed. 1: Auxiliary PG card The auxiliary PG card is used to measure the speed. The main PG card and the auxiliary PG card are installed in the J4 and J13 slots of the control board, respectively. It is recommended to set use the main PG card as the speed feedback source for motor control. The auxiliary PG card can be used to obtain the processing control position/speed.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-30	A/B phase sequence of encoder	0xF11E	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value： 0： Forward 1： Reverse							
	Description： In some applications, the direction of the measured encoder speed is opposite to the actual setting. You can change the encoder speed measurement phase sequence through this parameter.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-31	Encoder installation angle	0xF11F	0.0°~359.9°	0.0°	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description： This parameter indicates the angle between motor zero and encoder zero used by the synchronous motor, which can be obtained through motor auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-33	Rated speed of high-speed motor	0xF121	0~65535	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description： When the rated speed of the high-speed motor is higher than 60000 rpm, and the value of this parameter is larger than or equal to 6000 (corresponding to 60000 rpm), the parameter value applies; Otherwise, the value of F1-05 applies. The unit is 10 rpm.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-34	Number of resolver pole pairs	0xF122	1~65535	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description： This parameter indicates the number of pole pairs of the resolver. The higher the number of pole pairs, the higher the precision. A resolver is an electromagnetic transducer, also known as a synchronous resolver. It is a small AC motor used to measure							

	angles, and measure shaft angular displacement and angular velocity of a rotating object. It consists of stators and rotors. If a resolver is applied, set the number of pole pairs of the resolver properly. The number of resolver pole pairs must be less than or equal to the number of motor pole pairs, and the number of motor pole pairs divided by the number of resolver pole pairs must be an integer.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-35	Sin-Cos encoder frequency-division output coefficient	0xF123	4~65532	4	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Indicates the number of pulses outputted by the PG card. Indicates the number of pulses outputted by the PG card per revolution of the sin-cos encoder signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-36	Speed feedback PG wire breakage detection time	0xF124	0.0s~10.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the open circuit detection time. If it is set to 0.0s, detection is disabled. When the encoder hardware open circuit detection is enabled (bit02 of A9-09 set to 1), the drive reports E020.X when an open circuit fault is detected and the fault persists after the time defined by F1-36 elapses.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F1-37	Motor parameter auto-tuning mode	0xF125	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: No operation 1: Static partial auto-tuning of the asynchronous motor 2: Dynamic auto-tuning of the asynchronous motor 3: Static complete auto-tuning of the asynchronous motor 4: Inertia auto-tuning 5: Dead zone auto-tuning 9: Reserved 10: Reserved 11: With-load auto-tuning of the synchronous motor (back EMF excluded) 12: No-load dynamic auto-tuning of the synchronous motor 13: With-load auto-tuning of the synchronous rotary motor (zero point angle excluded) 14: UV gain phase-to-phase deviation auto-tuning 15: No-load auto-tuning							
	Description: For high-performance motor operation, accurate motor parameters are required. Select different motor auto-tuning modes based on the motor type to obtain motor parameters. 0: Not apply Motor parameter auto-tuning is not applied. 1: Static partial auto-tuning of the asynchronous motor This mode is applicable to scenarios where the motor cannot be disconnected from loads and dynamic auto-tuning is not							

	feasible. In this mode, some motor parameters are auto-tuned, including F1-06 (Asynchronous motor stator resistance), F1-07 (Asynchronous motor rotor resistance), and F1-08 (Asynchronous motor leakage inductance). Others parameters use the default values. 2: Dynamic auto-tuning of the asynchronous motor This mode is applicable to scenarios requiring high-speed operation. Dynamic auto-tuning can be performed without load or with pure inertia load. Auto-tuning is performed on all the motor parameters, including F1-06 (Asynchronous motor stator resistance), F1-07 (Asynchronous motor rotor resistance), F1-08 (Asynchronous motor leakage inductance), F1-09 (Asynchronous motor mutual inductance), F1-10 (Asynchronous motor no-load current), F1-30 (Encoder phase sequence), motor inertia ratio (A9-17), and friction torque (A9-18). 3: Static complete auto-tuning of the asynchronous motor This mode is applicable to scenarios where the motor cannot be disconnected from loads and dynamic complete auto-tuning is not feasible. Auto-tuning is performed on some motor parameters, including F1-06 (Asynchronous motor stator resistance), F1-07 (Asynchronous motor rotor resistance), F1-08 (Asynchronous motor leakage inductance), F1-09 (Asynchronous motor mutual inductance), and F1-10 (Asynchronous motor no-load current). However, F1-09 and F1-10 have higher precision in the dynamic auto-tuning mode than in this mode. 4: Inertia auto-tuning This mode is applicable to scenarios requiring high-speed operation. Auto-tuning can be performed without load or with light load (below 80% of the rated load) or pure inertia load. After auto-tuning is done, A9-17 (Inertia ratio), A9-18 (Friction torque), and A9-16 (Motor time constant) are updated. 5: Dead zone auto-tuning This mode is used to tune the non-linear characteristics of the drive, thus improving the voltage output precision and operation efficiency. The auto-tuned value is saved in BF-22, and BF-23 to BF-38. 11: With-load auto-tuning of the synchronous motor (back EMF excluded) This mode applies to applications where the motor cannot be disconnected from the load. The motor may rotate for several revolutions slowly during auto-tuning. Auto-tuned motor parameters include F1-06 (Motor stator resistance), F1-17 (D-axis inductance of synchronous motor), F1-18 (Q-axis inductance of synchronous motor), and F1-31 (Encoder mounting angle) in the FVC mode. F1-30 (Encoder direction) in the FVC mode is not tuned. Note: Before setting the drive to the FVC mode, change the drive to the SVC mode and check that the encoder direction is correct. Then switch the drive to the FVC mode. Note: Before setting the drive to the FVC mode, change the drive to the SVC mode and check that the encoder direction is correct. Then switch the drive to the FVC mode. 12: No-load dynamic auto-tuning of the synchronous motor This mode applies to applications where the motor can be disconnected from the load. Auto-tuned motor parameters in the FVC mode include F1-06 (Motor stator resistance), F1-17 (D-axis inductance of synchronous motor), F1-18 (Q-axis inductance of synchronous motor), F1-19 (Synchronous motor back EMF), F1-30 (Encoder phase sequence), and F1-31 (Encoder mounting angle). F1-30 and F1-31 are not tuned in other control modes. 13: With-load auto-tuning of the synchronous rotary motor (zero point angle excluded) This mode applies to applications where the motor cannot be disconnected from the load and dynamic complete auto-tuning is not allowed. The motor does not rotate during auto-tuning. Auto-tuned motor parameters include F1-06 (Motor stator resistance), F1-17 (Synchronous motor d-axis inductance), and F1-18 (Synchronous motor q-axis inductance). Encoder parameters are not tuned. Note: Before setting the drive to the FVC mode, change the drive to the SVC mode and check that the encoder direction is correct. Then switch the drive to the FVC mode. Note: Before setting the drive to the FVC mode, change the drive to the SVC mode and check that the encoder direction is correct. Then switch the drive to the FVC mode. 14: UV gain phase-to-phase deviation auto-tuning

	The current sampling gain deviation between output phases is tuned. The tuned result is updated in FF-05 (Current sampling gain error between U-phase current and V-phase current) and FF-06 (Current sampling gain error between U-phase current and W-phase current).

F2 Vector Control Parameters of Motor 1

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-00	Speed loop proportional gain 1	0xF200	1~300	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter sets the low-speed speed loop gain Kp. The value of speed loop Kp affects the response speed of the motor speed. A larger Kp value indicates higher adjustment sensitivity and adjustment intensity. A smaller Kp value indicates lower adjustment sensitivity and adjustment intensity. The low-speed speed loop Kp is used at the low speed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-01	Speed loop integral time 1	0xF201	0.01s~10.00s	0.50s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter sets the low-speed speed loop integral time Ti. The reciprocal of the speed loop integral time constant is the integral gain. The speed loop integral time constant affects the steady-state speed error of the motor and the stability of the speed loop system. Increasing the speed loop integral time constant slows down the response of the speed loop. In this case, increase the speed loop proportional gain to shorten the response time of the speed loop. The low-speed speed loop Ti is used at the low speed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-02	Switchover frequency 1	0xF202	0.00Hz~F2-05	5.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The speed loop PI parameters are divided into low-speed and high-speed groups. If the running frequency is lower than F2-02 (Switchover frequency 1), the speed loop PI adjustment parameters are F2-00 and F2-01. If the running frequency is higher than F2-05 (Switchover frequency 2), the speed loop PI adjustment parameters are F2-03 and F3-04. If the running frequency falls between switchover frequency 1 and switchover frequency 2, speed loop PI parameters are switched between two groups of PI parameters linearly. The parameter value must be lower than F2-05 (Switchover frequency 2).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-03	Speed loop	0xF203	1~300	20	Unsigned	Real time	General	Effective

	proportional gain 2				16 bit	changes	user	in real time
	Description: This parameter sets the high-speed speed loop gain Kp. A larger Kp value indicates higher adjustment sensitivity and adjustment intensity. A smaller Kp value indicates lower adjustment sensitivity and adjustment intensity.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-04	Speed loop integral time 2	0xF204	0.01s~10.00s	1.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter sets the high-speed speed loop integral time Ti. The speed loop integral time constant affects the steady-state speed error of the motor and the stability of the speed loop system. Increasing the speed loop integral time constant slows down the response of the speed loop. In this case, increase the speed loop proportional gain to shorten the response time of the speed loop.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-05	Switchover frequency 2	0xF205	F2-02~F0-10	10.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The speed loop PI parameters are divided into low-speed and high-speed groups. If the running frequency is lower than F2-02 (Switchover frequency 1), the speed loop PI adjustment parameters are F2-00 and F2-01. If the running frequency is higher than F2-05 (Switchover frequency 2), the speed loop PI adjustment parameters are F2-03 and F3-04. If the running frequency falls between switchover frequency 1 and switchover frequency 2, speed loop PI parameters are switched between two groups of PI parameters linearly. This parameter must be set to a value higher than F2-02 (Switchover frequency 1).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-06	Vector control slip gain	0xF206	50%~200%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: In the SVC mode, this parameter is used to adjust the speed stability accuracy of the motor. For example, when the running frequency of the motor is lower than the output frequency of the AC drive, you can increase the value of this parameter. In the FVC mode, this parameter is used to adjust the output current of the AC drive under the same load. For example, if the load capacity of a high-power AC drive is weak, decrease the value of this parameter gradually. No adjustment is required under normal circumstances.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-07	Speed feedback filter	0xF207	0.000s~0.100s	0.015s	Unsigned	Real time	General	Effective

	time in SVC mode				16 bit	changes	user	in real time
	Description: In the SVC mode (F0-01 = 0), the speed loop feedback filter time is effective. Adjusting the parameter can improve the motor stability. Increasing the value of this parameter enhances motor stability but slows down the dynamic response speed. Decreasing the value of this parameter speeds up dynamic response. Note that an excessively low value will lead to motor oscillation. The default value of this parameter applies to most of applications.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-09	Torque upper limit source in speed control mode (motoring)	0xF209	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: F2-10 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication setting 6: Min 6: Min. (AI1, AI2) 7: Max. (AI1, AI2) Others: F connector							
	Description: Defines the torque upper limit source in speed control in motoring state. The details are as follows: 0: F2-10 The torque upper limit in speed control is set by F2-10 (Digital setting of torque limit in speed control). 1: AI1 The torque upper limit is input by current or voltage signal through the AI1. The torque is calculated according to the preset AI curve. 2: AI2 The torque upper limit is input by current or voltage signal through the AI2. The torque is calculated according to the preset AI curve. 3: AI3 The torque upper limit is input by current or voltage signal through the AI3. The torque is calculated according to the preset AI curve. 4: Pulse reference (DI5) The torque upper limit in speed control mode is set through the DI5. The torque is calculated based on the curve of the relationship between the pulse frequency and running frequency. 5: Communication The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment. 6: Min. (AI1, AI2) The torque upper limit in speed control mode is the smaller value between AI1 and AI2 inputs. 7: Max. (AI1, AI2) The torque upper limit in speed control mode is the larger value between AI1 and AI2 inputs. Others: F connector Read the connector value through setting the parameter No. of a float connector. The value being read is used as the							

	motoring torque upper limit reference in speed control. In addition to the setting sources used in 0 to 7, you can use the connector to expand the setting sources. The full range of options other than 0 corresponds to the value of F2-10. The motor is in the motoring state when the actual running direction of the motor is the same as the torque direction. The motor is in the generating state when the actual running direction of the motor is opposite to the torque direction.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-10	Torque upper limit in speed control mode	0xF20A	0.0%~600.0%	150.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the digital setting of torque upper limit in speed control mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-11	Torque upper limit source in speed control mode (generating)	0xF20B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Digital setting (F2-10) 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Communication 6: Min. (AI1, AI2) 7: Max. (AI1, AI2) 8: Digital setting (F2-12) Others: F connector							
	Description: Defines the torque upper limit source in the speed control mode in the generating state. The details are as follows: 0: F2-10 The torque upper limit in speed control is set by F2-10 (Digital setting of torque limit in speed control). 1: AI1 The torque upper limit is input by current or voltage signal through the AI1. The torque is calculated according to the preset AI curve. 2: AI2 The torque upper limit is input by current or voltage signal through the AI2. The torque is calculated according to the preset AI curve. 3: AI3 The torque upper limit is input by current or voltage signal through the AI3. The torque is calculated according to the preset AI curve. 4: Pulse reference (DI5) The torque upper limit in speed control mode is set through the DI5. The torque is calculated based on the curve of the relationship between the pulse frequency and running frequency. 5: Communication The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment.							

	6: Min. (AI1, AI2) The torque upper limit in speed control mode is the smaller value between AI1 and AI2 inputs. 7: Max. (AI1, AI2) The torque upper limit in speed control mode is the larger value between AI1 and AI2 inputs. 8: Digital setting (F2-12) The torque upper limit in speed control mode is set by A2-50 (digital setting of torque upper limit in speed control). Others: F connector Read the connector value through setting the parameter No. of a float connector. The value being read is used as the generating torque upper limit reference in speed control. It is used for extension of common sources. The full range of options other than 0 and 8 is the value of F2-12. The motor is in the motoring state when the actual running direction of the motor is the same as the torque direction. The motor is in the generating state when the actual running direction of the motor is opposite to the torque direction.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-12	Torque upper limit in speed control mode (generating)	0xF20C	0.0%~600.0%	150.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the generating torque upper limit in speed control mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-18	Synchronous motor current loop mode	0xF212	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: No field weakening 1: Auto-tuning mode 2: Calculation+Auto-tuning 3: Synchronous motor normal mode 4: Asynchronous motor normal mode							
	Description: This parameter can be used to set the current loop mode in different modes. You can change it according to the field conditions. The default value applies to most of applications. 0: No field weakening In this mode, the max. motor speed is related to the bus voltage of the drive. The advantage is that the output current is low under the same load. The disadvantage is that the operating frequency cannot reach the set frequency. If high motor speed is needed, do not use this mode. 1: Auto-tuning mode This mode is simple and reliable. In applications requiring quick field weakening, increase the value of F2-19 properly. Note that setting F2-19 to an excessively high value may cause unstable current. 2: Calculation+Auto-tuning This compound mode features quick speed and applies to applications where the automatic adjustment mode cannot meet demands. 3: Synchronous motor mode							

	This mode applies to high-speed operation of synchronous motor. 4: Synchronous motor mode This mode applies to field weakening operation of asynchronous motor.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-19	Field weakening gain	0xF213	0.1~200.0	3.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing the value of this parameter can improve dynamic response, but too large can cause current oscillation. Therefore, it is recommended to increase the value of this parameter gradually for commissioning. The default value applies to most of applications.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-22	Generating power limiting	0xF216	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled in the whole process 2: Enabled at constant speed 3: Enabled during deceleration							
	Description: This parameter can be used to set the active range of the generating power limit. 0: Inactive Generating power limit inactive 1: Active throughout the process Generating power limit activated throughout the process 2: Active during operating at constant speed Generating power limit activated during operation at constant speed 3: Active during decelerated operation Generating power limit activated during decelerated operation							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-23	Generating power upper limit	0xF217	0.0%~200.0%	20.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is a percentage of the generating power upper limit to the rated motor power. If overvoltage still occurs after you set F2-53 to 1 (Enable), decrease the value of F2-23.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F2-24	Initial position angle detection current of synchronous motor	0xF218	50~180	80	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the current value for initial position auto-tuning of synchronous motor. The lower the current, the lower the noise generated during detection. Note that excessively low current may lead to inaccurate detection. Do not modify the default value in FVC mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-25	Initial position angle detection of synchronous motor	0xF219	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Detected upon running 1: Not detected 2: Detected upon initial running after power-on							
	Description: The initial position angle detection prevents reverse rotation during startup. The fault is that there is a certain noise. Set F2-25 to 0 in applications where the motor rotor position changes after stop and reverse run is inhibited upon start. In other applications, set it to 1 or 2.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-27	Salient pole rate adjustment gain of synchronous motor	0xF21B	0.20~3.00	1.00	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Set F2-28 to 1. If the output current does not decrease or even increase under the same load, adjust F2-27. When the load does not change, adjust F2-27 until the output current is minimized.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-28	Maximum torque-to-current ratio control of synchronous motor	0xF21C	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: When the salient-pole motor is switched on, the output current decreases under the same load. This function enables the control of the maximum torque-current ratio.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F2-32	Z signal correction	0xF220	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Activated when ABZ encoder of the synchronous motor is used in FVC mode. Pulse loss or excessive pulses may be occur on the incremental ABZ encoder during operation due to interference, which may lead to orientation error of the synchronous motor, insufficient force output, or even runaway fault. After this function is enabled, the drive corrects the orientation angle based on Z signal to ensure reliability of long-term operation. 0: OFF Turn off Z signal correction. 1: ON Turn on Z signal correction.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-37	Low speed carrier frequency	0xF225	0.5kHz~F0-15	2.0kHz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is used to set the carrier frequency of the motor at low speed to lower the motor noise in the V/f or FVC mode. The carrier frequency is the lower one between F0-15 and F2-37. When the value of F2-37 is greater than or equal to 4 kHz, the value of F2-37 is active. When the value of F2-37 is lower than 4 kHz, 4 kHz is used.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-43	Position lock	0xF22B	0~1	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used in the start and stop states. If stiffness is required for zero speed, set speed loop gain parameters to high values. You can set F2-43 to enable the position lock function. Switch on the speed loop gain for zero speed separately. The switchover frequency threshold is F2-44 and gain values are F2-45 and F2-46. 0: OFF 1: ON							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-44	Switchover frequency	0xF22C	0.00Hz~F2-02	0.30Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Position lock switchover frequency							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-45	Position lock speed loop proportional gain	0xF22D	1~100	10	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When F2-43 (Position lock enable) is set to 1 and the operating frequency is lower than the switchover frequency (F2-44), the active proportional gain of speed loop is F2-45.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-46	Position lock speed loop integral time	0xF22E	0.01s~10.00s	0.50s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When F2-43 (Position lock enable) is set to 1 and the operating frequency is lower than the switchover frequency (F2-44), the active integral time of speed loop is F2-46.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-49	Motor tuning-free mode	0xF231	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: OFF 1: Enabled upon initial operation after power-on 2: Enabled before operation							
	Description: Used to auto-tune synchronous motor parameters before start (including stator resistance, magnetic pole position, D/Q-axis inductance and saturation model). The current starting time increases after this function is enabled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-50	Encoder direction auto-tuning and pre-positioning current	0xF232	0.0%~800.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the control current for encoder direction auto-tuning and pre-positioning auto-tuning, which is based on The rated motor current. The active current value is the set current value and the minimum value in the rated current of the drive							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F2-51	Initial position compensation angle	0xF233	0.0~359.9	0.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	Defines the initial position compensation angle.

F3 V/f control parameter 1

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-00	V/f curve setting	0xF300	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Linear V/f 1: Multi-point V/f 2: Reserved 3: Reserved 4: Reserved 5: Reserved 6: Reserved 7: Reserved 8: Reserved 9: Reserved 10: V/f fully separated mode 11: V/f partially separated mode							
	Description: Used to set the V/f curve. In V/f mode, different V/f curves can be set according to different application conditions. 0: Linear V/f The output voltage and output frequency change linearly when below the rated frequency. It is applicable to general mechanical drive applications such as large inertia fan acceleration, punch presses, centrifuges and water pumps. 1: Multi-point V/f curve The range of the frequency point is 0.00 Hz to the rated motor frequency. The range of the voltage point is 0.0% to 100.0%, which corresponds to 0 V to the rated motor voltage. Set the multi-point V/f curve based on motor's load characteristic. Observe this formula during settings: F3-03 ≤ F3-05 ≤ F3-07 10: V/f fully separated mode The output frequency and output voltage of the AC drive are independent. The output frequency is determined by the frequency source, and the output voltage is determined by the voltage source for V/f separation. This curve applies to torque motor control applications. 11: V/f partially separated mode In this mode, V and f are proportional. The relationship between V and f is also related to the rated motor voltage and rated motor frequency in group motor 1. The relationship between the output voltage of the drive (V) and frequency (f) is as follows: V/f = 2 x (Voltage source input) x (Rated motor voltage)/(Rated motor frequency). Note: The input value of the voltage source is 0 to 100%.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-01	Torque boost	0xF301	0.0%~30.0%	2.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The torque boost function is generally applicable to low-frequency operations of the drive. The output torque of the AC drive in the V/f control mode is proportional to the frequency. During operation at low frequencies, the motor torque is low when the motor runs at a low speed. In this case, you can set this parameter to increase the output voltage of the drive to							

	improve the output torque. Note that the torque boost value must be set properly. Otherwise, overload protection will be triggered.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-02	Cut-off frequency of torque boost	0xF302	0.00Hz~F0-10	50.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the running frequency reaches the cutoff frequency of torque boost, the torque boost function is disabled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-03	Multi-point V/f frequency 1	0xF303	0.00Hz~F3-05	0.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the frequency point 1 of multi-point V/f curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-04	Multi-point V/f voltage 1	0xF304	0.0%~100.0%	0.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the voltage point 1 of multi-point V/f curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-05	Multi-point V/f frequency 2	0xF305	F3-03~F3-07	0.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the frequency point 2 of multi-point V/f curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-06	Multi-point V/f voltage 2	0xF306	0.0%~100.0%	0.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the voltage point 2 of multi-point V/f curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-07	Multi-point V/f frequency 3	0xF307	F3-05~F1-04	0.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real

								time
	Description: Defines the frequency point 3 of multi-point V/f curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-08	Multi-point V/f voltage 3	0xF308	0.0%~100.0%	0.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the voltage point 3 of multi-point V/f curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-09	V/f slip compensation gain	0xF309	0.0~6553.5	0.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: In V/f mode, increasing the output frequency compensates for the motor speed deceleration. A higher gain indicates a higher compensation frequency. However, an excessively high gain can incur overcompensation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-10	V/f over-excitation gain	0xF30A	0~200	64	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: A larger over-excitation gain indicates better suppression effect. When a braking resistor, braking unit, or energy feedback unit is used, set this parameter to 0. Otherwise, overcurrent may occur during operation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-11	V/f oscillation suppression gain	0xF30B	0~100	40	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The higher the vibration gain, the better the suppression performance.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-12	V/f oscillation suppression	0xF30C	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							

	Description： In V/f mode, for most motors, speed and current oscillation will occur at low frequency, which may lead to overcurrent of the AC drive. Oscillation can be eliminated by enabling oscillation suppression.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-13	Voltage source for separated V/f	0xF30D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value：

0： Digital setting (F3-14)
1： AI1
2： AI2
3： AI3
4： Pulse reference (DI5)
5： Multi-reference
6： Simple PLC
7： PID
8： Communication
Others： F connector

Description：

Defines the target voltage reference source in case of separated V/f.

0: Digital setting (F3-14)

The V/f separation voltage is set by F3-14.

1: AI1

The V/f separation voltage is inputted by current or voltage signal through the AI1. The frequency is calculated according to the AI curve.

2: AI2

The V/f separation voltage is inputted by current or voltage signal through the AI2. The frequency is calculated according to the AI curve.

3: AI3

The V/f separation voltage is inputted by current or voltage signal through the AI3. The frequency is calculated according to the AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card.

4: The Pulse reference (DI5)

The V/f separation voltage is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and running frequency.

5: Multi-reference

In multi-reference mode, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC.

6: Simple PLC

The V/f separation voltage is set by simple PLC. For details, see the function description of simple PLC.

7: PID

The V/f separation voltage is set through PID. For details, see descriptions of the PID function.

8: Communication

The V/f separation output voltage is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment.

Others: F connector

	Read the connector value through setting the parameter No. of a float connector. The value being read is used as the V/f separation voltage in speed control. This mode is used for expansion besides the common sources.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-14	Voltage digital setting for V/f separation	0xF30E	0V~F1-02	0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
F3-15	Voltage rise time of V/f separation	0xF30F	0.0s~1000.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the time required for the output voltage to rise from 0 to the rated motor voltage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-16	Voltage decline time of V/f separation	0xF310	0.0s~1000.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the time required for the output voltage to decline from the rated motor voltage to 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-17	Stop mode for separated V/f	0xF311	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Frequency and voltage decline to 0 independently 1: Frequency declines to 0 after voltage declines to 0 2: Coast to stop (new)							
	Description: Used to select the respective stop mode of frequency/voltage. 0: The frequency/voltage declines to 0 independently based on respective deceleration time. 1: The voltage declines to 0 based on the deceleration time. Then the frequency declines to 0 based on the deceleration time. 2: The voltage/frequency coasts to stop, regardless of the deceleration curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-18	Action current of overcurrent stall suppression	0xF312	50%~200%	150%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the motor current reaches the value of this parameter, the AC drive starts the overcurrent stall function. The default							

	value is 150%, corresponding to 1.5 x the rated current of the drive.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-19	Overcurrent stall suppression	0xF313	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: V/f overcurrent stall							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-20	Overcurrent stall suppression gain	0xF314	1~500	20	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the current exceeds the overcurrent stall action current, the overcurrent stall suppression function is triggered, and the output frequency decreases. When the current falls below the overcurrent stall threshold, the output frequency increases to the target frequency, and the actual acceleration time prolongs automatically. A larger parameter value indicates better suppression effect.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-21	Action current compensation coefficient for overcurrent stall at multiplied rated frequency	0xF315	50%~200%	100%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to reduce the overcurrent stall action current at high speed. It is invalid when set to 50%. The recommended value for F3-18 in the field weakening area is 100%.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-22	V/f overvoltage stall suppression voltage	0xF316	330.0V~800.0V	770.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the bus voltage reaches this value, the AC drive starts the voltage limit function.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F3-23	V/f overvoltage stall suppression	0xF317	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Used to enable/disable the V/f overvoltage stall suppression. 0: Disabled 1: Enabled (overvoltage stall gain activated by default) The function of F3-23 is the same as F9-04 (Overvoltage stall protection voltage). When a braking resistor, braking unit, or energy feedback unit is used, set this parameter to 0. Otherwise, the deceleration time may be prolonged.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-24	V/f frequency gain for voltage limit	0xF318	1~500	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing F3-24 improves the control effect of bus voltage, but the output frequency will fluctuate. If the output frequency fluctuates greatly, reduce F3-24 appropriately. The function of F3-24 is the same as F9-03 (Overvoltage stall gain).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-25	V/f voltage gain for voltage limit	0xF319	1~500	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter suppresses the bus voltage. Increasing the parameter value can reduce the overshoot of the bus voltage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-26	Frequency rise limit for V/f overvoltage stall suppression	0xF31A	0Hz~50Hz	5Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The running frequency may increase when the voltage limit function is enabled. This parameter limits the increase of the running frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-27	Slip compensation filter time	0xF31B	0.1s~10.0s	0.5s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description:							

	Time constant of slip compensation frequency The larger the time constant is, the more stable the frequency of the slip compensation is, and the less the frequency is affected by load disturbance and noise. However, the response to load changes will be slower.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-28	Multi-point curve source	0xF31C	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: 3-point curve 1: Multi-point curve module A 2: Multi-point curve module B							
	Description: Used to select the multi-point curve. 0: 3-point curve The 3-point curve applies by default, which is set by F3-03...F3-08. 1: Multi-point curve module A The free module A output is used as multi-point curve setting. 2: Multi-point curve module B The free module B output is used as multi-point curve setting.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-33	Online torque compensation gain	0xF321	80~150	100	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: In V/f mode, F3-01 increases the output voltage of the AC drive according to a fixed curve. When F3-33 is larger than or equal to 100 or F3-01 is set to 0, the automatic torque boost compensation is an additional boost value related to the load plus the output voltage set by F3-01. The greater the F3-33, the greater the torque boost compensation. When F3-33 is smaller than 100 and F3-01 is set to a non-zero value, the automatic torque boost compensation is disabled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-34	Overcurrent stall suppression Ki coefficient	0xF322	10%~1000%	100%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The higher the setpoint, the lower the current controlled by overcurrent suppression. Note that an excessively high setpoint can result in motor oscillation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-35	Overcurrent stall suppression threshold	0xF323	80%~300%	200%	Unsigned 16 bit	Shutdown change	General user	Effective in real

	(rated current of base motor)							time
	Description: Take the minimum of rated motor current and F3-18 as the overcurrent suppression threshold. The overcurrent suppression is triggered when the drive output current reaches the threshold in V/f mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-36	Frequency for activating field weakening upon overcurrent stall suppression	0xF324	100%~500%	100%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the motor operates at a frequency higher than this setpoint, the target current of overcurrent suppression drops in reverse proportion. The current oscillate when entering the field weakening area. In this case, lower this frequency threshold properly.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-37	IT filter time	0xF325	10ms~1000ms	100ms	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the current filter time upon slip compensation without PG of asynchronous motor in V/f mode The shorter the filter time, the faster the response speed of slip compensation. However, an excessively short filter time may lead to oscillation. The longer the filter time, the slower the slip compensation speed, and the more stable the adjustment process will be.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-38	Slip compensation mode	0xF326	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Slip compensation without PG 2: Slip compensation with PG							
	Description: When the asynchronous motor operates in V/f mode, the slip exists between the rotor speed and synchronous frequency, which can cause low motor speed precision. In this case, the heavier the load, the lower the speed precision. The slip compensation can be used to compensate for the speed change to improve the speed precision. 1: Slip compensation without PG In absence of an encoder, use slip compensation without PG to perform compensation based on the load current, which features lower precision compared with the slip compensation with PG. 2: Slip compensation with PG							

	The slip compensation with PG is applicable to applications with motor encoder. The output frequency is compensated based on the speed feedback from the encoder, which features high precision.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-39	Permissible overvoltage suppression time	0xF327	0.0s~100.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Permissible overvoltage suppression time							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-40	Upper limit of V/f separation voltage	0xF328	50.0%~200.0%	100.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the upper limit of V/f separation voltage, which takes the rated motor voltage as the basis.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-41	Frequency RFG time of V/f separation	0xF329	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: RFG time forced to 0 1: Preset RFG time							
	Description: Frequency RFG time of V/f separation When this parameter is set to 0, the acceleration/deceleration time of frequency reference is set to 0 forcibly. When this parameter is set to 1, acceleration/deceleration is performed based on the set time.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-42	Cut-off frequency of V/f oscillation suppression filter	0xF32A	1.0Hz~50.0Hz	8.0Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The motor may oscillate due to mechanical resonance in V/f mode. The system damping can be improved through vibration suppression algorithm. The oscillation frequency can be suppressed only when it is higher than the cut-off frequency of the oscillation suppression filter.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-43	Cut-off frequency for active V/f oscillation	0xF32B	10Hz~3000Hz	200Hz	Unsigned 16 bit	Real time changes	General user	Effective in real

	suppression							time
	Description: The oscillation suppression is not activated when the motor speed is higher than this cut-off frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-44	Overvoltage suppression feedforward coefficient	0xF32C	0%~500%	0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to boost the synchronous frequency to prevent overvoltage caused by slow response when entering overvoltage suppression in V/f mode. The higher the setpoint, the better the dynamic responsiveness. However, an excessively high setpoint may result in motor oscillation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-45	Synchronous motor IF selection	0xF32D	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Used to enable synchronous motor IF. "I" is the current and "F" is the frequency. Used in low-speed processing.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-46	Synchronous motor IF current	0xF32E	0.0%~200.0%	50.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set synchronous motor IF current. "I" is the current and "F" is the frequency. Used in low-speed processing.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-47	Synchronous motor IF switchover frequency	0xF32F	0.0%~100.0%	2.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set synchronous motor IF switchover frequency. "I" is the current and "F" is the frequency. Used in low-speed processing.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-48	Hysteresis frequency for synchronous motor IF switchover	0xF330	0.0%~100.0%	2.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set hysteresis frequency for synchronous motor IF switchover. "I" is the current and "F" is the frequency. Used in							

	low-speed processing.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-49	Synchronous motor IF current switchover time	0xF331	0.001s~20.000s	1.000s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set synchronous motor IF current switchover time. "I" is the current and "F" is the frequency. Used in low-speed processing.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-50	PMVVC low-speed IF	0xF332	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: 0: Disable low-speed IF PMVVC mode is used. 1: Enable low-speed IF When this function is enabled, the IF operation mode applies during low speed. The low-speed current is set by F3-51. The switchover speed is set by F3-52. Use this function if high torque output at low speed is needed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-51	PMVVC low-speed IF current	0xF333	30~250	100	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the current during low-speed IF operation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-52	PMVVC low-speed IF speed switching threshold	0xF334	2.0%~100.0%	10.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When F3-50 is enabled, the IF mode applies when this threshold is not reached; the V/f mode applies when this threshold is reached.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-53	PMVVC oscillation suppression gain	0xF335	0~500	100	Unsigned	Real time	General	Effective in real

	coefficient				16 bit	changes	user	time
	Description: Used to set the oscillation suppression gain in PMVVC mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-54	PMVVC filter time coefficient	0xF336	0~500	100	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the filter time constant in PMVVC mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-55	PMVVC energy conservation control mode	0xF337	Refer to "Value"	2	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Fixed linear V/f curve 1: Fixed 30% reactive current 2: MTPA control							
	Description: Used to select the energy-saving control mode in PMVVC mode. 0: Fixed linear V/f curve 1: Fixed 30% reactive current 2: MTPA control Defines the control mode for the maximum torque output per unit current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-56	VVC current loop adaptation coefficient	0xF338	0%~1000%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust the intensity of VVC current loop.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-57	MTPA adaptation coefficient of VVC	0xF339	0%~1000%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust the intensity of VVC energy-saving control.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-60	SFC control enable	0xF33C	0~1	1	Unsigned	Shutdown	General	Effective

	switch				16 bit	change	user	in real time
	Description: When this function is turned on, the original synchronous motor VVC mode will switch to stator magnetic linkage orientation control.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-61	SFC control weak magnetic integral	0xF33D	0~1000	200	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the field weakening controller integral coefficient in stator magnet linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-62	SFC control M-axis ratio	0xF33E	1~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the M-axis controller proportional coefficient in stator linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-63	SFC control M-axis integral	0xF33F	1~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the M-axis controller integral coefficient in stator magnetic linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-64	SFC control T-axis ratio	0xF340	1~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the T-axis controller proportional coefficient in stator magnetic linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-65	SFC control T-axis integral	0xF341	1~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the T-axis controller integral coefficient in stator magnetic linkage control mode.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
F3-66	Flux lower limit of SFC	0xF342	0%~1000%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the minimum allowable flux output in stator flux linkage control mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-67	Waiting time of SFC switchover	0xF343	0ms~10000ms	0ms	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the waiting time for IF switch-in of SFC in stator magnet linkage control mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-68	Flux coefficient setpoint of SFC	0xF344	0%~1000%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust target output flux in stator linkage control mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-69	Coil control mode	0xF345	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: V/f separation active 1: IF separation active							
	Description: Used to define whether to use V/f separation or IF separation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-70	Voltage source for coil IF separation	0xF346	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Digital setting (F3-71) 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Multi-reference 6: Simple PLC 7: PID 8: Communication Others: F connector							
	Description:							

	Defines the target voltage reference source when the coil current and frequency are separated. 0: Digital setting (F3-71) The IF separation current is set through F3-71. 1: AI1 The IF separation voltage is inputted by current or voltage signal through AI1. The frequency is calculated according to the AI curve. 2: AI2 The IF separation voltage is inputted by current or voltage signal through AI2. The frequency is calculated according to the AI curve. 3: AI3 The IF separation voltage is inputted by current or voltage signal through AI3. The frequency is calculated according to the AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card. 4: Pulse reference (DI5) The IF separation voltage is set through DI5. The frequency is calculated based on the relationship curve between the pulse frequency and running frequency. 5: Multi-reference In multi-reference mode, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC. 6: Simple PLC The IF separation voltage is set by simple PLC. For details, see the function description of simple PLC. 7: PID The IF separation voltage is set through PID. For details, see descriptions of the PID function. 8: Communication The IF separation current is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment. Others: F connector Read the connector value through setting the parameter No. of a float connector. The value being read is used as the IF separation current in speed control. This mode is used for expansion besides the common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-71	Current reference for coil IF separation	0xF347	1.00%~120.00%	20.00%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the current reference value in IF control mode in percentages.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-72	Voltage rise time for coil IF separation	0xF348	0.000s~65.000s	0.000s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: The current rise time of the IF separation is the time required for the output current to accelerate from 0 to the motor rated current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-73	Current fall time for coil IF separation	0xF349	0.000s~65.000s	0.000s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The current fall time of the IF separation is the time required for the output current to accelerate from 0 to the motor rated current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-74	Max. current value for coil IF separation	0xF34A	1.00%~120.00%	100.00%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the max. current limit in IF control mode in percentages.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-75	Stop mode for coil IF separation	0xF34B	Refer to "Value"	2	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Frequency and voltage declined to 0 independently 1: Frequency declined to 0 after current declined to 0 2: Coast to stop							
	Description: Used to select the respective stop modes for the coil current and frequency. 0: The frequency/current declines to 0 independently based on respective deceleration time. 1: The current declines to 0 based on the deceleration time. Then the frequency declines to 0 based on the deceleration time. 2: The current/frequency coasts to stop, regardless of the deceleration curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-76	PM observer stator resistance coefficient	0xF34C	0%~1000%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the PM observer stator resistance ratio.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F3-77	Waiting time of PM observer auto-tuning	0xF34D	0s~1000s	0s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the waiting time of PM observer online auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-78	Coil IF separation current control coefficient	0xF34E	1~1000	50	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the current control coefficient in IF control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-79	Coil IF separation sub-controller switch	0xF34F	0~1	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the enable switch for negative sequence controller in IF control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-80	Proportional coefficient of coil IF separation sub-controller	0xF350	1%~1000%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the negative sequence controller proportional coefficient in IF control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-81	Integral coefficient of coil IF separation sub-controller	0xF351	1%~1000%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the negative sequence controller integral coefficient in IF control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-82	Voltage limit of coil IF separation sub-controller	0xF352	1%~100%	40%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the output voltage limit for negative sequence controller in IF control mode.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
F3-83	Coil transformer change ratio	0xF353	1.0~100.0	1.0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Coil transformer change ratio							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-85	Synchronous motor observer switchover	0xF355	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Mode 0 1: Mode 1							
	Description: Synchronous motor observer mode switchover 0: Mode 0 New SVC observer type 1: Mode 1 Original SVC observer type							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-86	Switchover frequency of synchronous motor SVC model	0xF356	0.0%~100.0%	10.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model switchover frequency							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-87	Synchronous motor SVC model switchover hysteresis frequency	0xF357	0.0%~100.0%	5.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model switches hysteresis frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-88	Synchronous motor SVC model parameter 0	0xF358	0~100	5	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model parameter 0							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-89	Synchronous motor SVC model parameter 1 lower limit	0xF359	1~100	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model parameter 1 lower limit							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F3-90	Synchronous motor SVC model parameter 6	0xF35A	1~10	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model parameter 6							

F4 Input Terminals

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-00	DI1 function	0xF400	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: No function 1: Forward run (IN1) 2: Reverse run (IN2) 3: Three-wire operation control (IN3) 4: Forward jog (FJOG) 5: Reverse jog (RJOG) 6: Terminal UP 7: Terminal DOWN 8: Coast to stop 9: Fault reset (RESET) 10: Operation pause 11: External fault normally open (NO) input 12: Multi-reference terminal 1 13: Multi-reference terminal 2 14: Multi-reference terminal 3 26: Counter reset 27: Length count input 28: Length reset 29: Torque control inhibited 30: Pulse frequency input (only DI5 active) 31: Reserved 32: Immediate DC braking 33: External fault normally closed (NC) input 34: Frequency modification enabled 35: Reverse PID operation direction 36: External stop terminal 1 37: Control command switchover terminal 2 51: Reserved 52: Reverse run inhibited 56: Reserved 59: Reserved 61: Reserved 64: Positive limit switch 65: Negative limit switch 66: Water-cooling fault input 67: Low liquid fault input 68: Reserved 69: Reserved 70: Control channel selection 71: Setting channel selection (reserved) 72: Terminal module A/B selection 73: Start selection bit0							

	15：Multi-reference terminal 4 16：Terminal 1 for acceleration/deceleration selection 17：Terminal 2 for acceleration/deceleration selection 18：Frequency reference switchover 19：UP and DOWN setting clear 20：Control command switchover terminal 1 21：Acceleration/Deceleration inhibited 22：PID pause 23：Simple PLC status reset 24：Wobble pause 25：Counter input	38：PID integral pause 39：Switchover between main frequency reference X and preset frequency 40：Switchover between auxiliary frequency reference Y and preset frequency 41：Motor selection terminal 1 42：Reserved 43：PID parameter switchover 44：User-defined fault 1 45：User-defined fault 2 46：Speed control/Torque control switchover 47：Emergency stop 48：External stop terminal 2 49：Deceleration DC braking 50：Clear the current operating time	74：Start selection bit1 75：Control command switchover terminal 3 76：Motor selection terminal 2 77：Operation enable 78：Forward run allowed 79：Reverse run allowed 80：RFG input set to zero 82：Reserved 84：Reserved 86：Open circuit detection (wire drawing machine)
	Description： 0: No function The DI terminal has no function. 1: Forward run (IN1) The drive operates forwardly. FWD indicates forward running. In two-wire mode 1 (F4-11 = 0), activating DI function 1 triggers forward running. In two-wire operation mode 2 (F4-11 = 1), activating DI function 1 triggers a running command. 2: Reverse run (IN2) The drive operates reversely. REV indicates reverse running. In two-wire mode 1 (F4-11 = 0), activating DI function 2 triggers reverse running. In two-wire mode 2 (F4-11 = 1), activating DI function 2 triggers forward/reverse running. 3: Three-wire operation control (IN3) The drive operates in three-wire control mode. To set the running command source to the terminal, set F4-11 (terminal command mode) to 2 (three-wire mode 1) or 3 (three-wire mode 2), and set the DI to function 3. The three-wire control modes include three-wire mode 1 and three-wire mode 2. 4: Forward jog (FJOG) The drive jogs forwardly. In the jogging mode, the drive runs at the frequency set by F8-00 (Jogging frequency), which is generally used for maintenance and commissioning of the equipment on site. 5: Reverse run (RJOG) The drive jogs reversely. In the jogging mode, the drive runs at the frequency set by F8-00 (Jogging frequency), which is generally used for maintenance and commissioning of the equipment on site. 6: Terminal UP Used to modify the frequency increase command. Activating the terminal is equivalent to pressing and holding the increment key. Deactivating the terminal is equivalent to releasing the increment key. 7: Terminal DOWN		

	Used to modify the frequency decrease command. Activating the terminal is equivalent to pressing and holding the decrement key. Deactivating the terminal is equivalent to releasing the decrement key. 8: Coast to stop Once the drive receives a stop command, it immediately stops output and the load then coasts to stop based on the mechanical inertia. The AC drive stops output to shut down. At this time, the power supply of the motor is cut off and the driving system is in the free braking state. This is also known as inertia stop because the stop time is determined by the inertia of the driving system. 9: Fault reset (RESET). Activating the terminal resets the AC drive upon a fault. This function is the same as that of the STOP/RES key on the operating panel. This function allows you to perform a reset upon the fault remotely. 10: Operation pause This function is valid only when F0-02 is set to 1 (terminal). After this function is assigned to the terminal, the drive decelerates to stop with all the operating parameters memorized (such as PLC parameters, wobble frequency, and PID parameters). When the terminal is inactive, the drive resumes to the status before decelerating to stop. 11: NO input of external fault The drive reports E015.1 upon receiving an external signal. 12-15: Multi-reference terminals 1–4 The drive selects the multi-reference as the main frequency. Sixteen speeds or sixteen references can be set through combinations of sixteen states of these four terminals. It is suitable for applications where the operating frequency of the drive does not require continuous adjustment, and only several frequency values need to be used. 16 and 17: Acceleration/Deceleration selection terminals 1 and 2 The acceleration time indicates the time required by the AC drive to accelerate from 0 Hz to the acceleration/deceleration base frequency (F0-25). The deceleration time indicates the time required by the AC drive to decelerate from the acceleration/deceleration base frequency (F0-25) to 0 Hz. Four groups of acceleration/deceleration time can be selected through combinations of four states of these two terminals. For example, if DI1 is assigned with function 16 and DI2 is assigned with function 17, the active states of DI2 and DI1 can be used to indicate the following groups acceleration/deceleration time: [0, 0] Indicates the first group of the acceleration/deceleration time. [0, 1] Indicates the second group of the acceleration/deceleration time. [1, 0] Indicates the third group of the acceleration/deceleration time. [1, 1] Indicates the fourth group of the acceleration/deceleration time. 18: Frequency source switchover This function enables selection of different frequency reference input mode. The frequency reference is set through F0-07 (Frequency reference superposition). 19: UP and DOWN setting clear Activating the terminal clears the frequency that is set by the increment or decrement key on the operating panel or the terminal functioning as UP/DOWN keys and resumes the frequency reference to the value specified by F0-08. 20: Command source switchover terminal 1 When the running command is set through the terminal (F0-02=1) and this terminal is active, the control mode can be switched between the terminal and the operating panel. When the running command is set through communication (F0-02=2) and this terminal is active, the control mode can be switched between the communication and the operating panel. 21: Acceleration/Deceleration inhibited The terminal is used to maintain the current running frequency of the AC drive regardless of changes of the external input

	frequency (unless a stop command is received). 22: PID pause PID is invalid temporarily. The AC drive maintains the current output frequency without supporting PID adjustment of the frequency source. 23: Simple PLC status reset Used to restore the AC drive to the initial state of the simple PLC. 24: Wobble pause In the wobble process, when this terminal is active, the wobble function pauses (the AC drive outputs at the center frequency). 25: Counter input In the count process, when the terminal is active, a count pulse is input. 26: Counter reset In the count process, when the terminal is active, the counter status is cleared. 27: Length count input In the fixed length process, when the terminal is active, the length count is input. 28: Length reset In the fixed length process, when the terminal is active, the length is cleared. 29: Torque control prohibited When the terminal is active, the AC drive switches from the torque control mode to the speed control mode. When the terminal is inactive, the AC drive switches back to the torque control mode. 30: Pulse input When DI5 is used as the pulse input terminal, DI5 must be allocated with this function. 31: Reserved 32: Immediate DC braking The drive directly switches to the DC braking state. DC braking indicates that the drive outputs direct current to the stator winding of the asynchronous motor to form a static magnetic field, enabling the motor to brake with energy consumption. In this state, the rotor cuts the static magnetic field to generate braking torque, which stops the motor quickly. 33: NC input of external fault The drive reports E015.2 upon receiving an external signal. 34: Frequency modification enabled When the terminal is active, the frequency can be modified. When the terminal is inactive, the frequency cannot be modified. 35: PID action direction reversal The PID action direction is reversed to the direction set by FA-03 (PID action direction). 36: External stop terminal 1 The terminal is used to stop the drive regardless of the value of F0-02, which functions the same as the STOP/RES key on the operating panel. 37: Command source switchover terminal 2 This function enables the switchover between the terminal control and the communication control. If terminal control is used, the system switches to communication control when the terminal is active. If communication control is used, the system switches to terminal control when the terminal is active. 38: PID integral pause The integral adjustment function pauses when the terminal is active. However, the proportional and derivative adjustment

	functions are still valid. 39: Switchover between main frequency reference X and preset frequency This function is used to switch from main frequency reference X to F0-08 (Preset frequency). 40: Switchover between auxiliary frequency reference Y and preset frequency This function is used to switch from auxiliary frequency reference Y to F0-08 (Preset frequency). 41, 76: Motor selection terminals 1 to 4 Used to select motor parameters. For example, when DI1 is assigned with function 41 and DI2 is assigned with function 76, motor 1 applies when DI1 and DI2 are inactive; motor 2 applies when DI1 is active and DI2 is inactive; motor 3 applies when DI1 is inactive and DI2 is active; motor 4 applies when DI1 and DI2 are both active. 42: Reserved 43: PID parameter switchover If PID parameters are switched over through DI (FA-18 = 1), the following conditions are true. When the terminal is inactive, the PID parameters are FA-05 to FA-07 (proportional gain Kp1, integral time Ti1, and derivative time Td1). When the terminal is active, the PID parameters are FA-15 to FA-17 (PID gain Kp2, integral time Ti2, and derivative time Td2). 44: User-defined fault 1 When the AC drive reports E027.1, the AC drive will take measures according to the value of F9-49 (Fault protection action selection). 45: User-defined fault 2 When the AC drive reports E027.2, the AC drive will take measures according to the value of F9-49 (Fault protection action selection). 46: Switchover between speed control and torque control The terminal is used to switch between the speed control mode and the torque control mode. If A0-00 (speed/torque control mode) is set to 0, the torque control mode is used when the terminal is active, and the speed control mode is used when the terminal is inactive. If A0-00 (speed/torque control mode) is set to 1, the speed control mode is used when the terminal is active, and the torque control mode is used when the terminal is inactive. 47: Emergency stop When the system is in the emergency state, the drive decelerates according to F8-55 (Deceleration time for emergency stop) or according to the minimum unit time when the deceleration time for emergency stop is 0s in the V/f control mode. The input terminal does not need to be in the closed state continuously. Even if it is closed only for a moment, an emergency stop will occur immediately. Different from general deceleration time, the emergency stop input terminal is opened after the deceleration time for emergency stop expires. In this case, if the operation signal is still active, the drive will not restart. To restart the drive, disconnect the operation terminal and input the operation command again. 48: External stop terminal 2 The terminal is used to make the AC drive decelerate to stop in any control mode (operating panel, terminal, or communication control). In this case, the deceleration time is fixed to the value of F8-08 (deceleration time 4). 49: Decelerate to DC braking The AC drive decelerates to F6-11 first and then enters the DC braking state. 50: Clear the current running time The terminal is used to clear the current running time (U0-26) of the AC drive. When the terminal is active, the current running time of the drive is not cleared. 51: Two-wire/Three-wire control switchover The terminal is used to switch between two-wire control and three-wire control. When F4-11 is set to 0 (two-wire mode 1) and the terminal is active, the drive switches to three-wire mode 1. When the terminal is inactive, two-wire mode 1 is used.

	When F4-11 is set to 1 (two-wire mode 2) and the terminal is active, the drive switches to three-wire mode 2. When F4-11 is set to 2 (three-wire mode 1) and the terminal is active, the drive switches to two-wire mode 1. When F4-11 is set to 3 (three-wire mode 2) and the terminal is active, the drive switches to two-wire mode 2. 52: Reverse run inhibited When the terminal is active, even if the reverse frequency is set, the actual frequency of the AC drive is fixed to 0. This function is the same as F8-13 (Reverse frequency inhibited). 64: Positive limit switch 65: Negative limit switch 66: Water-cooling fault input When the external signal is sent to the drive, E064.1 can be reported when this terminal is enabled. 67: Low liquid fault input When the external signal is sent to the drive and the terminal is active, A066.1 (thousands of F9-50 = 2) or E066.1 (thousands of F9-50 = 0) is reported. 68 and 69: Reserved 70: Control channel selection Select two groups of user-defined command channels. 0 represents channel 1 and 1 represents channel 2. 71: Setting channel selection (reserved) 72: Terminal module A/B selection 0 represents module A and 1 represents module B. 73 to 74: Start selection (BIT0/bit1) Used to select the start mode. For example, if DI1 and DI2 are assigned with functions 73 and 74, respectively, direct start is selected when both DI1 and DI2 are inactive; flying start is selected when DI1 is active but DI2 is inactive; DC braking start is selected when DI1 is inactive but DI2 is active; and the last start mode is selected when both DI1 and DI2 are active. 75: Command source switchover terminal 3 This function enables the switchover between terminal control and communication control. 77: Operation enable When the terminal function is high-level triggered, operation is allowed. Otherwise, operation is not allowed or the drive stops as defined by AA-09. 78: Forward run allowed When the terminal function is high level-triggered, the frequency reference can be positive. 79: Reverse run allowed When the terminal function is high level-triggered, the frequency reference can be negative. 80: RFG input clear When the terminal function is low level-triggered, the target reference is cleared. 86: Open circuit detection (wire drawing machine) After the AC drive is started and the time set by A7-32 (Breakage detection time for startup delay) expires, detection on the DI status starts. If the DI is active, the AC drive reports E031.2.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-01	DI2 function	0xF401	Refer to "Value"	4	Unsigned 16 bit	Shutdown change	General user	Effective in real time

	Value: Same as"F4-00"							
	Description: Same as"F4-00"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-02	DI3 function	0xF402	Refer to "Value"	9	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: Same as"F4-01"							
	Description: Same as"F4-01"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-03	DI4 function	0xF403	Refer to "Value"	12	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: Same as"F4-02"							
	Description: Same as"F4-02"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-04	DI5 function	0xF404	Refer to "Value"	13	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: Same as"F4-03"							
	Description: Same as"F4-03"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-05	DI6 function	0xF405	Refer to "Value"	0	Unsigned	Shutdown	General	Effective

					16 bit	change	user	in real time
	Value: Same as"F4-04"							
	Description: Same as"F4-04"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-06	DI7 function	0xF406	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: Same as"F4-05"							
	Description: Same as"F4-05"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-07	DI8 function	0xF407	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: Same as"F4-06"							
	Description: Same as"F4-06"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-08	DI9 function	0xF408	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: Same as"F4-07"							
	Description: Same as"F4-07"							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
F4-09	DI10 function	0xF409	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: Same as"F4-08"							
	Description: Same as"F4-08"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-10	DI filter time	0xF40A	0.000s~1.000s	0.010s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Set the delay time of the AC drive when the status of the DI changes.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-11	Terminal control mode	0xF40B	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Two-wire mode 1 1: Two-wire mode 2 2: Three-wire mode 1 3: Three-wire mode 2							
	Description: 0: Two-wire mode 1 Two DI terminals are connected: one is used to start/stop the AC drive in forward run mode, and the other is used to start/stop the AC drive in reverse run mode. 1: Two-wire mode 2 Two DI terminals are connected: one is used to start/stop the AC drive, and the other is used to control the running direction. 2: Three-wire mode 1 Three DI terminals are connected: one is used to start/stop the AC drive, and the other two are used to control the running direction. 3: Three-wire mode 2 Three DI terminals are connected: one is used to start the AC drive, one is used to stop the AC drive, and the other is used							

	to control the running direction.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-12	Terminal UP/DOWN change rate	0xF40C	0.001Hz/s~65.535Hz/s	1.000Hz/s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the change rate when the frequency is adjusted through terminal UP/DOWN. When the DI terminal function is set to the function of terminal UP or DOWN, this parameter must be set (values of F4-00 to F4-09 are 6 or 7).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-13	Minimum input of AI curve 1	0xF40D	-10.00V~+F 4-15	0.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: When the main frequency is set by AI, each AI supports five types of AI curves. The AI curve is used to set the mapping between the analog input voltage (or current) and the percentage corresponding to the maximum frequency (F0-10). The x axis of the AI curve represents the analog input voltage or current. The y axis represents the set value corresponding to the analog input, that is, the percentage corresponding to the maximum frequency (F0-10). Five AI curves are provided. Curves 1 to 3 are two-point curves, and their relevant parameters are F4-13 to F4-27. Curves 4 and 5 are four-point curves, and their relevant parameters are A6-00 to A6-15. The two points on curves 1 to 3 are minimum input point and maximum input point, respectively. F4-13 corresponds to the x axis of the AI curve 1 minimum input, that is, the minimum analog input voltage or current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-14	Percentage corresponding to minimum input of AI curve 1	0xF40E	-100.0%~+1 00.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: F4-14 corresponds to the y axis of the AI curve 1 minimum input, that is, the set value corresponding to the minimum analog input.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-15	Maximum input of	0xF40F	F4-13~10.00V	10.00V	Signed 16	Real time	General	Effective

	AI curve 1				bits	changes	user	in real time
	Description: F4-15 corresponds to the x axis of AI curve 1 maximum input, that is, the maximum analog input voltage or current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-16	Percentage corresponding to maximum input of AI curve 1	0xF410	-100.0%~+100.0%	100.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: F4-16 corresponds to the y axis of the AI curve 1 maximum input, that is, the set value corresponding to the maximum analog input.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-17	AI1 filter time	0xF411	0.00s~10.00s	0.10s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the software filter time of AI1. The longer the AI filter time, the stronger the anti-interference capability and the slower the speed of response to analog detection will be. The shorter the AI filter time, the weaker the anti-interference capability and the faster the speed of response to analog detection will be. When analog signals on the site are susceptible to interference, increase the AI filter time to enhance the stability of analog signals.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-18	Minimum input of AI curve 2	0xF412	-10.00V~+F4-20	0.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: F4-18 corresponds to the x axis of the AI curve 2 minimum input, that is, the minimum analog input voltage or current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-19	Percentage corresponding to	0xF413	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real

	minimum input of AI curve 2							time
	Description: F4-19 corresponds to the y axis of the AI curve 2 minimum input, that is, the set value corresponding to the minimum analog input.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-20	Maximum input of AI curve 2	0xF414	F4-18~10.00V	10.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: F4-20 corresponds to the x axis of the AI curve 2 maximum input, that is, the maximum analog input voltage or current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-21	Percentage corresponding to maximum input of AI curve 2	0xF415	-100.0%~+100.0%	100.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: F4-21 corresponds to the y axis of the AI curve 2 maximum input, that is, the set value corresponding to the maximum analog input.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-22	AI2 filter time	0xF416	0.00s~10.00s	0.10s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the software filter time of AI2. The longer the AI filter time, the stronger the anti-interference capability and the slower the speed of response to analog detection will be. The shorter the AI filter time, the weaker the anti-interference capability and the faster the speed of response to analog detection will be. When analog signals on the site are susceptible to interference, increase the AI filter time to enhance the stability of analog signals.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-23	Minimum input of	0xF417	-10.00V~+F	-10.00V	Signed 16	Real time	General	Effective

	AI curve 3		4-25		bits	changes	user	in real time
	Description: F4-23 corresponds to the x axis of the AI curve 3 minimum input, that is, the minimum analog input voltage or current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-24	Percentage corresponding to minimum input of AI curve 3	0xF418	-100.0%~+100.0%	-100.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: F4-24 corresponds to the y axis of the AI curve 3 minimum input, that is, the set value corresponding to the minimum analog input.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-25	Maximum input of AI curve 3	0xF419	F4-23~10.00V	10.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: F4-25 corresponds to the x axis of AI curve 3 maximum input, that is, the maximum analog input voltage or current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-26	Percentage corresponding to maximum input of AI curve 3	0xF41A	-100.0%~+100.0%	100.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: F4-26 corresponds to the y axis of the AI curve 3 maximum input, that is, the set value corresponding to the maximum analog input.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-27	AI3 filter time	0xF41B	0.00s~10.00s	0.10s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	Indicates the software filter time of AI3. The longer the AI filter time, the stronger the anti-interference capability and the slower the speed of response to analog detection will be. The shorter the AI filter time, the weaker the anti-interference capability and the faster the speed of response to analog detection will be. When analog signals on the site are susceptible to interference, increase the AI filter time to enhance the stability of analog signals.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-28	Minimum pulse input frequency	0xF41C	0.00kHz~F4-30	0.00kHz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the DI5 high-speed pulse is used to set the main frequency, the relationship curve between the pulse frequency and the frequency reference must be defined. The frequency reference is the percentage corresponding to the maximum frequency (F0-10). The x-axis of the curve represents the DI5 pulse frequency and the y-axis represents the percentage to the maximum frequency (F0-10). The curve is a two-point straight line, which includes the minimum and maximum pulse input points. F4-28 corresponds to the x axis of the minimum pulse input, that is, the minimum input frequency of the pulse.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-29	Percentage corresponding to minimum pulse input frequency	0xF41D	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: F4-29 corresponds to the y axis of the minimum pulse input, that is, the set value corresponding to the minimum pulse input.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-30	Maximum pulse input frequency	0xF41E	F4-28~100.00kHz	50.00kHz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: F4-30 corresponds to the x axis of the maximum pulse input, that is, the maximum input frequency of the pulse.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F4-31	Percentage corresponding to maximum pulse input frequency	0xF41F	-100.0%~+100.0%	100.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: F4-31 corresponds to the y axis of the maximum pulse input, that is, the set value corresponding to the maximum pulse input.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-32	Pulse filter time	0xF420	0.00s~10.00s	0.10s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the time coefficient for pulse curve filter processing.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-33	AI curve	0xF421	Refer to "Value"	0x321	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	AI1 curve selection	1: Curve 1 (2 points, see F4-13 to F4-16) 2: Curve 2 (2 points, see F4-18 to F4-21) 3: Curve 3 (2 points, see F4-23 to F4-26) 4: Curve 4 (4 points, see A6-00 to A6-07) 5: Curve 5 (4 points, see A6-08 to A6-15)
Tens	AI2 curve selection	1: Curve 1 (2 points, see F4-13 to F4-16) 2: Curve 2 (2 points, see F4-18 to F4-21) 3: Curve 3 (2 points, see F4-23 to F4-26) 4: Curve 4 (4 points, see A6-00 to A6-07) 5: Curve 5 (4 points, see A6-08 to A6-15)
Hundreds	AI3 curve selection	1: Curve 1 (2 points, see F4-13 to F4-16) 2: Curve 2 (2 points, see F4-18 to F4-21) 3: Curve 3 (2 points, see F4-23 to F4-26) 4: Curve 4 (4 points, see A6-00 to A6-07) 5: Curve 5 (4 points, see A6-08 to A6-15)

Description:

The ones to hundreds places of this parameter are used to select curves for AI1 to AI3.

Each digit can be used to set a curve for an AI. Different AIs can be set with the same curve.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-34	AI lower limit	0xF422	Refer to "Value"	0x0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Setting for AI1 less than minimum input	0: Percentage corresponding to minimum input 1: 0.0%
Tens	Setting for AI2 less than minimum input	0: Percentage corresponding to minimum input 1: 0.0%
Hundreds	Setting for AI3 less than minimum input	0: Percentage corresponding to minimum input 1: 0.0%

Description:

The ones to hundreds places of this parameter are used to select curves for AI1 to AI3.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-38	DI active mode selection 1	0xF426	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
Ones	DI1	0: Active high 1: Active low
Tens	DI2	0: Active high 1: Active low
Hundreds	DI3	0: Active high 1: Active low
Thousands	DI4	0: Active high 1: Active low
Ten thousands	DI5	0: Active high 1: Active low

Description:

The active mode for terminals DI1 to DI5 are set through the ones, tens, hundreds, thousands, and ten thousands of this parameter.

0: Active high

	DI1 to DI5 are active when connected to COM and inactive when disconnected from COM. 1: Active low DI1 to DI5 are inactive when connected to COM and active when disconnected from COM.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-39	DI active mode selection 2	0xF427	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
Ones	DI6	0: Active high 1: Active low
Tens	DI7	0: Active high 1: Active low
Hundreds	DI8	0: Active high 1: Active low
Thousands	DI9	0: Active high 1: Active low
Ten thousands	DI10	0: Active high 1: Active low

Description:

The active mode for terminals DI1 to DI5 are set through the ones, tens, hundreds, thousands, and ten thousands of this parameter.

0: Active high

DI1 to DI5 are active when connected to COM and inactive when disconnected from COM.

1: Active low

DI1 to DI5 are inactive when connected to COM and active when disconnected from COM.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-41	DI1 switch-on delay	0xF429	0.0s~3600.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Description:

Defines the delay coefficient when DI1 function is turned on.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F4-42	DI1 switch-off delay	0xF42A	0.0s~3600.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the delay coefficient when DI1 function is turned off.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-43	DI2 switch-on delay	0xF42B	0.0s~3600.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the delay coefficient when DI2 function is turned on.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-44	DI2 switch-off delay	0xF42C	0.0s~3600.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the delay coefficient when DI2 function is turned off.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-45	DI3 switch-on delay	0xF42D	0.0s~3600.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the delay coefficient when DI3 function is turned on.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-46	DI3 switch-off delay	0xF42E	0.0s~3600.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the delay coefficient when DI3 function is turned off.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
F4-47	DI4 switch-on delay	0xF42F	0.0s~3600.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the delay coefficient when DI4 function is turned on.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-48	DI4 switch-off delay	0xF430	0.0s~3600.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the delay coefficient when DI4 function is turned off.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-49	DI force data	0xF431	Refer to "Value"	0x0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
bit 0	DI1	0: Inactive 1: Active
bit1	DI2	0: Inactive 1: Active
bit2	DI3	0: Inactive 1: Active
bit3	DI4	0: Inactive 1: Active
bit4	DI5/HDI	0: Inactive 1: Active
bit5	DI6	0: Inactive 1: Active
bit6	DI7	0: Inactive 1: Active
bit7	DI8	0: Inactive 1: Active

bit8	DI9	0: Inactive 1: Active	
bit9	DI10	0: Inactive 1: Active	
bit10	Reserved		
bit11	Reserved		
bit12	Reserved		
bit13	Reserved		
bit14	Reserved		
bit15	Reserved		

Description:

This parameter is used to set the level state of DI1 to DI10 forcibly according to the bit sequence.

0: Inactive level forcibly

1: Active level forcibly

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-51	DI1 hardware source	0xF433	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: Hardware

1: Forced value

0: B connector

Description:

Generally, the active state of DI is obtained from hardware sampling. This function provides a software setting mode to force DIx to be active or inactive.

0: Hardware

DIx input state is valid, depending on whether the hardware DIx terminal sampling result is valid.

1:

The forced DIx input state is valid, depending on whether the bitx of F4-49 is valid. For example, if bit0 is valid, the DI1 input state is valid.

Others:

The active state of the DIx terminal of connector B is the state of the parameter to which the connector is connected.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-52	DI2 hardware source	0xF434	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real

								time
	Value： 0： Hardware 1： Forced value 0： B connector							
	Description： Generally, the active state of DI is obtained from hardware sampling. This function provides a software setting mode to force DIx to be active or inactive. 0: Hardware DIx input state is valid, depending on whether the hardware DIx terminal sampling result is valid. 1: The forced DIx input state is valid, depending on whether the bitx of F4-49 is valid. For example, if bit0 is valid, the DI1 input state is valid. Others: The active state of the DIx terminal of connector B is the state of the parameter to which the connector is connected.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-53	DI3 hardware source	0xF435	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value： 0： Hardware 1： Forced value 0： B connector							
	Description： Generally, the active state of DI is obtained from hardware sampling. This function provides a software setting mode to force DIx to be active or inactive. 0: Hardware DIx input state is valid, depending on whether the hardware DIx terminal sampling result is valid. 1: The forced DIx input state is valid, depending on whether the bitx of F4-49 is valid. For example, if bit0 is valid, the DI1 input state is valid. Others: The active state of the DIx terminal of connector B is the state of the parameter to which the connector is connected.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-54	DI4 hardware source	0xF436	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real

								time
	Value： 0： Hardware 1： Forced value 0： B connector							
	Description： Generally, the active state of DI is obtained from hardware sampling. This function provides a software setting mode to force DIx to be active or inactive. 0: Hardware DIx input state is valid, depending on whether the hardware DIx terminal sampling result is valid. 1: The forced DIx input state is valid, depending on whether the bitx of F4-49 is valid. For example, if bit0 is valid, the DI1 input state is valid. Others: The active state of the DIx terminal of connector B is the state of the parameter to which the connector is connected.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-55	DI5/HDI hardware source	0xF437	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value： 0： Hardware 1： Forced value 0： B connector							
	Description： Generally, the active state of DI is obtained from hardware sampling. This function provides a software setting mode to force DIx to be active or inactive. 0: Hardware DIx input state is valid, depending on whether the hardware DIx terminal sampling result is valid. 1: The forced DIx input state is valid, depending on whether the bitx of F4-49 is valid. For example, if bit0 is valid, the DI1 input state is valid. Others: The active state of the DIx terminal of connector B is the state of the parameter to which the connector is connected.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-56	DI6 hardware source	0xF438	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real

							time

Value：

0：Hardware	20：DI10	54：Expansion card RELAY
1：Forced value	21：VDI1	55：Expansion card DO2
2：Communication setting	22：VDI2	56：VDO1
3：Reserved	23：VDI3	57：VDO2
4：AI1	24：VDI4	58：VDO3
5：AI2	25：VDI5	59：VDO4
6：AI3	26：VDI6	60：VDO5
11：DI1	36：Reserved	61：VDO6
12：DI2	38：Reserved	62：VDO7
13：DI3	39：Reserved	63：VDO8
14：DI4	44：Reserved	64：VDO9
15：DI5/HDI	51：RELAY1	65：VDO10
17：DI7	52：RELAY2	66：VDO11
18：DI8	53：DO1	Others：B connector
19：DI9		

Description：

Used to select DI6 input state source.

0:

The DI terminal hardware sampling is used as the source.

1: Forced value

The DI input forced state value is set by software (corresponding bit of F4-49).

2: Communication setting

DI source is set through external communication.

4:AI1

AI1 is used as the DI input source for the DI function.

5: AI2

AI2 is used as the DI input source for the DI function.

6: AI3

AI3 is used as the DI input source for the DI function.

11: DI1

DI1 is used as the DI input source.

12: DI2

DI2 is used as the DI input source.

13: DI3

DI3 is used as the DI input source.

14: DI4

DI3 is used as the DI input source.

15: DI5/HDI

DI5/HDI is used as the DI input source.

17: DI7

	DI7 is used as the DI input source. 18: DI8 DI8 is used as the DI input source. 19: DI9 DI9 is used as the DI input source. 20: DI10 DI10 is used as the DI input source. 21: VDI1 VDI1 is used as the DI input source. 22: VDI2 VDI2 is used as the DI input source. 23: VDI3 VDI3 is used as the DI input source. 24: VDI4 VDI4 is used as the DI input source. 25: VDI5 VDI5 is used as the DI input source. 26: VDI6 VDI6 is used as the DI input source. 51: RELAY1 RELAY1 is used as the DI input source. 52: RELAY2 RELAY2 is used as the DI input source. 53: DO1 DO1 is used as the DI input source. 54: Expansion card relay The RELAY port of the expansion card is used as the DI input source. 55: Expansion card DO2 Expansion card DO2 is used as the DI input source. 56: VDO1 VDO1 is used as the DI input source. 57: VDO2 VDO2 is used as the DI input source. 58: VDO3 VDO3 is used as the DI input source. 59: VDO4 VDO4 is used as the DI input source. 60: VDO5 VDO5 is used as the DI input source. 61: VDO6 VDO6 is used as the DI input source. 62: VDO7 VDO7 is used as the DI input source.

	63: VDO8 VDO8 is used as the DI input source. 64: VDO9 VDO9 is used as the DI input source. 65: VDO10 VDO10 is used as the DI input source. 66: VDO11 VDO11 is used as the DI input source.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-57	DI7 hardware source	0xF439	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: Hardware	20: DI10	54: Expansion card RELAY
1: Forced value	21: VDI1	55: Expansion card DO2
2: Communication setting	22: VDI2	56: VDO1
3: Reserved	23: VDI3	57: VDO2
4: AI1	24: VDI4	58: VDO3
5: AI2	25: VDI5	59: VDO4
6: AI3	26: VDI6	60: VDO5
11: DI1	36: Reserved	61: VDO6
12: DI2	38: Reserved	62: VDO7
13: DI3	39: Reserved	63: VDO8
14: DI4	44: Reserved	64: VDO9
15: DI5/HDI	51: RELAY1	65: VDO10
17: DI7	52: RELAY2	66: VDO11
18: DI8	53: DO1	Others: B connector
19: DI9		

Description:

Used to select DI7 input state source.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-58	DI8 hardware source	0xF43A	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: Hardware	20: DI10	54: Expansion card RELAY

	1：Forced value	21：VDI1	55：Expansion card DO2
	2：Communication setting	22：VDI2	56：VDO1
	3：Reserved	23：VDI3	57：VDO2
	4：AI1	24：VDI4	58：VDO3
	5：AI2	25：VDI5	59：VDO4
	6：AI3	26：VDI6	60：VDO5
	11：DI1	36：Reserved	61：VDO6
	12：DI2	38：Reserved	62：VDO7
	13：DI3	39：Reserved	63：VDO8
	14：DI4	44：Reserved	64：VDO9
	15：DI5/HDI	51：RELAY1	65：VDO10
	17：DI7	52：RELAY2	66：VDO11
	18：DI8	53：DO1	Others：B connector
	19：DI9		
	Description： Used to select DI8 input state source.		

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-59	DI9 hardware source	0xF43B	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value： 0：Hardware 1：Forced value 2：Communication setting 3：Reserved 4：AI1 5：AI2 6：AI3 11：DI1 12：DI2 13：DI3 14：DI4 15：DI5/HDI 17：DI7 18：DI8 19：DI9		20：DI10 21：VDI1 22：VDI2 23：VDI3 24：VDI4 25：VDI5 26：VDI6 36：Reserved 38：Reserved 39：Reserved 44：Reserved 51：RELAY1 52：RELAY2 53：DO1		54：Expansion card RELAY 55：Expansion card DO2 56：VDO1 57：VDO2 58：VDO3 59：VDO4 60：VDO5 61：VDO6 62：VDO7 63：VDO8 64：VDO9 65：VDO10 66：VDO11 Others：B connector			
	Description： Used to select DI9 input state source.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-60	DI10 hardware source	0xF43C	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Hardware 1: Forced value 2: Communication setting 3: Reserved 4: AI1 5: AI2 6: AI3 11: DI1 12: DI2 13: DI3 14: DI4 15: DI5/HDI 17: DI7 18: DI8 19: DI9 20: DI10 21: VDI1 22: VDI2 23: VDI3 24: VDI4 25: VDI5 26: VDI6 36: Reserved 38: Reserved 39: Reserved 44: Reserved 51: RELAY1 52: RELAY2 53: DO1 54: Expansion card RELAY 55: Expansion card DO2 56: VDO1 57: VDO2 58: VDO3 59: VDO4 60: VDO5 61: VDO6 62: VDO7 63: VDO8 64: VDO9 65: VDO10 66: VDO11 Others: B connector							
	Description: Used to select DI7 input state source.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-61	DI5/HDI terminal type	0xF43D	Refer to "Value"	1	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Value: 0: HDI 1: DI							
	Description: Used to select DI5 as normal DI terminal or HDI terminal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-62	HDI polarity	0xF43E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real

								time
	Value: 0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value							
	Description: Used to select the processing mode of HDI sampling values. 0: Sampling value not processed 1: Using the absolute value of the sampling value 2: Inverting the sampling value 3: Using the absolute value of sampling value and then inverting this value							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-63	HDI input enable	0xF43F	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Value: 0: Disabled 1: Enabled 0: B-connector							
	Description: Used to select the function of the HDI terminal. 0: HDI terminal function disabled 1: HDI function enabled Others: B connector When "Others" is selected, the value of B is the active state of the parameter to which the connector is connected.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-64	HDI hardware source	0xF440	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Hardware sampling 1: Force setpoint							
	Description:							

	Used to select the HDI source. 0: HDI is input by DI5 port of hardware 1: HDI is determined by the forced value set by F4-65							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-65	HDI forced setpoint	0xF441	0.00kHz~100.00kHz	1.00kHz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the HDI forced input frequency value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-66	Minimum input of 4-point HDI curve	0xF442	0.00kHz~F4-68	10.00kHz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Corresponds to the x axis of the minimum input point, that is, the minimum input frequency of the pulse.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-67	Percentage corresponding to minimum input of 4-point HDI curve	0xF443	-100.0%~+100.0%	-100.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Corresponds to the y axis of the minimum input point, that is, the set value corresponding to the minimum pulse input.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-68	Inflection 1 input of 4-point HDI curve	0xF444	F4-66~F4-70	40.00kHz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Corresponds to the x axis of the inflection 1 input, that is, the input frequency of inflection 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F4-69	Percentage corresponding to inflection 1 input of 4-point HDI curve	0xF445	-100.0%~+100.0%	-30.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Corresponds to the y axis of the inflection 1 input, that is, the corresponding setting of inflection 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-70	Inflection 2 input of 4-point HDI curve	0xF446	F4-68~F4-72	70.00kHz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Corresponds to the x axis of the inflection 2 input, that is, the input frequency of inflection 2.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-71	Percentage corresponding to inflection 2 input of 4-point HDI curve	0xF447	-100.0%~+100.0%	30.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Corresponds to the y axis of the inflection 2 input, that is, the corresponding setting of inflection 2.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-72	Maximum input of 4-point HDI curve	0xF448	F4-70~100.00kHz	100.00kHz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Corresponds to the x axis of the maximum input point, that is, the maximum input frequency of the pulse.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-73	Percentage corresponding to maximum input of 4-point HDI	0xF449	-100.0%~+100.0%	100.0%	Signed 16 bits	Real time changes	General user	Effective in real time

	curve							
	Description: Corresponds to the y axis of the maximum input point, that is, the set value corresponding to the maximum pulse input.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-74	HDI curve setting	0xF44A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: Bit: Ones — Name: HDI curve — Value: 0: 2-point curve; 1: 4-point curve							
	Description: Used to select the curve type of HDI, which is the two-point or four-point curve on the curve coordinate axis. 0: Two-point curve (related parameters: F4-28 to F4-31) 1: Four-point curve (related parameters: F4-66 to F4-73)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-75	HDI denoising threshold	0xF44B	0.0%~10.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set HDI denosing time.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F4-76	HDI curve upper/lower limit	0xF44C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Limited 1: Not limited							
	Description: Defines whether to limit the max. input per-unit value when selecting HDI curves.							

F5 Output Terminals

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-00	FM multi-function terminal output	0xF500	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Pulse output (FMP) 1: Digital output (FMR)							
	Description: The FM terminal is a programmable multi-functional terminal, which can be used as the high-speed pulse output (FMP) terminal or open collector digital output terminal (FMR). 0: Maximum frequency up to 100 kHz when used as high-speed pulse output 1: When used as open collector output, specifications are the same as DO1							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-01	FMR output function	0xF501	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: No output	16: AI1 > AI2	31: AI1 input limit exceeded
1: Drive operating	17: Frequency upper limit reached	32: Load loss
2: Fault output	18: Frequency lower limit reached (OFF at stop)	33: Reverse running
3: Frequency level detection (FDT1) output	19: Undervoltage status output	34: Zero current status
4: Frequency reached	20: Communication setting	35: Module temperature reached
5: Operating at zero speed (OFF at stop)	21: Brake output	36: Output current limit exceeded
6: Motor overload pre-alarm	22: Reserved	37: Frequency lower limit reached (ON at stop)
7: Drive overload pre-alarm	23: Operating at zero speed 2 (ON at stop)	38: Alarm output (all faults)
8: Set counting value reached	24: Accumulative power-on time reached	39: Motor overtemperature output
9: Designated counting value reached	25: Frequency level detection (FDT2) output	40: Current operating time reached
10: Length reached	26: Frequency 1 reached	41: Fault output (undervoltage excluded)
11: Simple PLC cycle completed	27: Frequency 2 reached	42: STO output
12: Accumulative operating time reached		43: Operation output limited

	13：Wobble frequency limited	28：Current 1 reached	44：Brake output at stop (wire drawing machine)
	14：Torque limited	29：Current 2 reached	
	15：Ready to RUN	30：Timing reached	Others：B connector

Description：

0: No output

The output terminal has no function.

1: Running

When the AC drive is running with output frequency (can be 0), the terminal outputs an active signal.

2: Fault output

The DO outputs an active signal when the AC drive stops due to a fault.

3: Frequency level detection 1 (FDT1) output

When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the FDT hysteresis value (product of F8-19 and F8-20), the active signal is canceled.

4: Frequency reached

When the running frequency of the AC drive is within a certain range (target frequency±F8-21 x maximum frequency), the DO outputs an active signal.

5: Operating at zero speed (OFF at stop)

When the output frequency is 0 during AC drive running, an active signal is output. When the AC drive is in the stop state, the signal is inactive.

6: Motor overload pre-alarm

The AC drive judges whether the motor load exceeds the overload pre-alarm threshold according to the overload pre-alarm coefficient (F9-02) before performing the protection action. If the pre-alarm threshold is exceeded, this terminal outputs an active signal. (For calculation of the alarm threshold, see the description of motor overload protection.)

7: AC drive overload pre-alarm

This output function provides an active signal 10s before the AC drive triggers overload protection.

8: Set counting value reached

An active signal will be output when the counting value reaches the value of Fb-08.

9: Designated counting value reached

An active signal will be output when the counting value reaches the value of Fb-09.

10: Length reached

The terminal outputs an active signal when the detected actual length exceeds the value of Fb-05.

11: Simple PLC cycle completed

The terminal outputs a pulse signal with width of 250 ms when the simple PLC completes one cycle.

12: Accumulative operating time reached

The AC drive compares the cumulative running time and the time set by F8-17 and F8-75. If the former is greater than or equal to the latter, the terminal outputs an active signal.

13: Frequency limited

The terminal outputs an active signal when the frequency reference exceeds the frequency upper or lower limit, and the output frequency of AC drive reaches the upper or lower limit.

14: Torque limited

The terminal outputs an active signal when the output torque of AC drive reaches the toque limit in speed control mode.

	15: Ready to RUN The terminal outputs an active signal when the AC drive is ready for running without any fault after power-on. 16: AI1 > AI2 The terminal outputs an active signal when the value input through AI1 is higher than AI2. 17: Frequency upper limit reached The terminal outputs an active signal when the running frequency reaches the frequency upper limit (F0-12). 18: Frequency lower limit reach (no output at stop) If F8-14 (running mode when frequency reference is below lower limit) is set to 1 (stop), the DO outputs an inactive signal no matter whether the running frequency reaches the frequency lower limit. When F8-14 (Running mode when frequency reference < frequency lower limit) is set to 0 (run at the frequency lower limit) or 2 (run at zero speed) and the running frequency reaches the lower limit, the terminal outputs an active signal. 19: Undervoltage state The terminal outputs an active signal when undervoltage occurs on the AC drive. 20: Communication The communication address 0x2001 determines whether the terminal is active or not. 21: Brake output An active signal will be sent when the brake is turned on. An inactive signal will be sent when the brake is turned off. 22: Reserved 23: Operating at zero speed 2 (ON at stop) When the output frequency is 0 during running, an active signal is output. The signal is still active when the AC drive stops. 24: Accumulative power-on time reached The AC drive compares the cumulative running time and the time set by F8-16 and F8-74. If the former is greater than or equal to the latter, the terminal outputs an active signal. 25: Frequency level detection FDT2 output (FDT2) When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the frequency detection hysteresis value (product of F8-28 and F8-29), the active signal is canceled. 26: Frequency 1 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-30 (Frequency detection value 1). Frequency detection range: F8-30 – F8-31 x F0-10 (Maximum frequency) to F8-30 + F8-31 x F0-10 27: Frequency 2 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-32 (Frequency detection value 2). Frequency detection range: F8-32 – F8-33 x F0-10 (Maximum frequency) to F8-32 + F8-33 x F0-10 28: Current 1 reached An active signal will be output when the output current of the AC drive is within the range of F8-38 (Detection level of current 1). Current detection range: F8-38 – F8-39 x F1-03 (Rated motor current) to F8-38 + F8-39 x F1-03 29: Current 2 reached An active signal will be output when the output current of the AC drive is within the range of F8-40 (Detection level of current 2). Current detection range = F8-40 – F8-41 x F1-03 (Rated motor current) to F8-40 + F8-41 x F1-03 30: Timing reached On the condition that the timing function (F8-42) is enabled, the terminal outputs an active signal when the current running

	time of AC drive reaches the set time. The timing duration is defined by F8-43 and F8-44. 31: AI1 input limit exceeded The terminal outputs an active signal when AI1 input is higher than the value of F8-46 (AI1 input voltage upper limit) or lower than the value of F8-45 (AI1 input voltage lower limit). 32: Load loss The terminal outputs an active signal when load loss occurs. 33: Reverse running The terminal outputs an active signal when the AC drive runs in the reverse direction. 34: Zero current state When the output current of the AC drive is within the zero-current range for a time exceeding F8-35 (Zero current detection delay), the DO outputs an active signal. Zero current detection range = 0 to F8-34 x F1-03 35: IGBT temperature reached The terminal outputs an active signal when the IGBT heatsink temperature (F7-07) reaches the IGBT temperature threshold (F8-47). 36: Output current limit exceeded When the output current of the AC drive is greater than F8-36 (Output overcurrent threshold) for a time exceeding F8-37 (Output overcurrent detection delay), the DO outputs an active signal. 37: Frequency lower limit reached (ON at stop) The terminal outputs an active signal when the running frequency reaches the frequency lower limit (F0-14). The terminal still outputs the active signal when the drive is in the stop state. 38: Alarm output Output(all faults) If a fault occurs on the AC drive and the AC drive continues to run upon fault, the DO outputs an active signal. For details about the fault protection action, see F9-47 to F9-50. 39: Motor overtemperature An active signal will be output when the motor temperature reaches the threshold defined by F9-58 (Motor overtemperature pre-alarm threshold). You can check the motor temperature using U0-34. 40: Current running time reached The terminal outputs an active signal when the current operation time of the AC drive is longer than the value of F8-53 (current running time threshold). 41: Fault output (undervoltage excluded) When a fault occurs on the AC drive (undervoltage excluded), the DO terminal outputs an active signal. 42: STO output When the STO function is triggered, the DO terminal outputs an active signal. 43: Operation output limited When minor fault that limits the normal operation occurs, the operating panel displays "Lxxx.y". 44: Brake output at stop (wire drawing machine) When the AC drive stops and the running frequency is lower than the brake frequency set by A7-30, the terminal outputs an active signal. After the brake delay time set by A7-31 expires, the terminal outputs an inactive signal. Others: B connector When this option is selected, the output function is the signal or function state of the parameter to which the connector is connected.

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
F5-02	Output function selection of control panel relay (T/A-T/B-T/C)	0xF502	Refer to "Value"	2	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value：

0： No output
1： Drive operating
2： Fault output
3： Frequency level detection (FDT1) output
4： Frequency reached
5： Operating at zero speed (OFF at stop)
6： Motor overload pre-alarm
7： Drive overload pre-alarm
8： Set counting value reached
9： Designated counting value reached
10： Length reached
11： Simple PLC cycle completed
12： Accumulative operating time reached
13： Wobble frequency limited
14： Torque limited
15： Ready to RUN
16： AI1 > AI2
17： Frequency upper limit reached
18： Frequency lower limit reached (OFF at stop)
19： Undervoltage status output
20： Communication setting
21： Brake output
22： Reserved
23： Operating at zero speed 2 (ON at stop)
24： Accumulative power-on time reached
25： Frequency level detection (FDT2) output
26： Frequency 1 reached
27： Frequency 2 reached
28： Current 1 reached
29： Current 2 reached
30： Timing reached
31： AI1 input limit exceeded
32： Load loss
33： Reverse running
34： Zero current status
35： Module temperature reached
36： Output current limit exceeded
37： Frequency lower limit reached (ON at stop)
38： Alarm output (all faults)
39： Motor overtemperature output
40： Current operating time reached
41： Fault output (undervoltage excluded)
42： STO output
43： Operation output limited
44： Brake output at stop (wire drawing machine)
Others： B connector

Description：

0: No output

The output terminal has no function.

1: Running

When the AC drive is running with output frequency (can be 0), the terminal outputs an active signal.

2: Fault output

The DO outputs an active signal when the AC drive stops due to a fault.

3: Frequency level detection 1 (FDT1) output

When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the FDT hysteresis value (product of F8-19 and F8-20), the active signal is canceled.

4: Frequency reached

When the running frequency of the AC drive is within a certain range (target frequency±F8-21 x maximum frequency), the DO outputs an active signal.

5: Operating at zero speed (OFF at stop)

	When the output frequency is 0 during AC drive running, an active signal is output. When the AC drive is in the stop state, the signal is inactive. 6: Motor overload pre-alarm The AC drive judges whether the motor load exceeds the overload pre-alarm threshold according to the overload pre-alarm coefficient (F9-02) before performing the protection action. If the pre-alarm threshold is exceeded, this terminal outputs an active signal. (For calculation of the alarm threshold, see the description of motor overload protection.) 7: AC drive overload pre-alarm This output function provides an active signal 10s before the AC drive triggers overload protection. 8: Set counting value reached An active signal will be output when the counting value reaches the value of Fb-08. 9: Designated counting value reached An active signal will be output when the counting value reaches the value of Fb-09. 10: Length reached The terminal outputs an active signal when the detected actual length exceeds the value of Fb-05. 11: Simple PLC cycle completed The terminal outputs a pulse signal with width of 250 ms when the simple PLC completes one cycle. 12: Accumulative operating time reached The AC drive compares the cumulative running time and the time set by F8-17 and F8-75. If the former is greater than or equal to the latter, the terminal outputs an active signal. 13: Frequency limited The terminal outputs an active signal when the frequency reference exceeds the frequency upper or lower limit, and the output frequency of AC drive reaches the upper or lower limit. 14: Torque limited The terminal outputs an active signal when the output torque of AC drive reaches the toque limit in speed control mode. 15: Ready to RUN The terminal outputs an active signal when the AC drive is ready for running without any fault after power-on. 16: AI1 > AI2 The terminal outputs an active signal when the value input through AI1 is higher than AI2. 17: Frequency upper limit reached The terminal outputs an active signal when the running frequency reaches the frequency upper limit (F0-12). 18: Frequency lower limit reach (no output at stop) If F8-14 (running mode when frequency reference is below lower limit) is set to 1 (stop), the DO outputs an inactive signal no matter whether the running frequency reaches the frequency lower limit. When F8-14 (Running mode when frequency reference < frequency lower limit) is set to 0 (run at the frequency lower limit) or 2 (run at zero speed) and the running frequency reaches the lower limit, the terminal outputs an active signal. 19: Undervoltage state The terminal outputs an active signal when undervoltage occurs on the AC drive. 20: Communication The communication address 0x2001 determines whether the terminal is active or not. 21: Brake output An active signal will be sent when the brake is turned on. An inactive signal will be sent when the brake is turned off. 22: Reserved 23: Operating at zero speed 2 (ON at stop)

	When the output frequency is 0 during running, an active signal is output. The signal is still active when the AC drive stops. 24: Accumulative power-on time reached The AC drive compares the cumulative running time and the time set by F8-16 and F8-74. If the former is greater than or equal to the latter, the terminal outputs an active signal. 25: Frequency level detection FDT2 output (FDT2) When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the frequency detection hysteresis value (product of F8-28 and F8-29), the active signal is canceled. 26: Frequency 1 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-30 (Frequency detection value 1). Frequency detection range: F8-30 – F8-31 x F0-10 (Maximum frequency) to F8-30 + F8-31 x F0-10 27: Frequency 2 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-32 (Frequency detection value 2). Frequency detection range: F8-32 – F8-33 x F0-10 (Maximum frequency) to F8-32 + F8-33 x F0-10 28: Current 1 reached An active signal will be output when the output current of the AC drive is within the range of F8-38 (Detection level of current 1). Current detection range: F8-38 – F8-39 x F1-03 (rated motor current) to F8-38 + F8-39 x F1-03 29: Current 2 reached An active signal will be output when the output current of the AC drive is within the range of F8-40 (Detection level of current 2). Current detection range = F8-40 – F8-41 x F1-03 (Rated motor current) to F8-40 + F8-41 x F1-03 30: Timing reached On the condition that the timing function (F8-42) is enabled, the terminal outputs an active signal when the current running time of AC drive reaches the set time. The timing duration is defined by F8-43 and F8-44. 31: AI1 input limit exceeded The terminal outputs an active signal when AI1 input is higher than the value of F8-46 (AI1 input voltage upper limit) or lower than the value of F8-45 (AI1 input voltage lower limit). 32: Load loss The terminal outputs an active signal when load loss occurs. 33: Reverse running The terminal outputs an active signal when the AC drive runs in the reverse direction. 34: Zero current state When the output current of the AC drive is within the zero-current range for a time exceeding F8-35 (Zero current detection delay), the DO outputs an active signal. Zero current detection range = 0 to F8-34 x F1-03 35: IGBT temperature reached The terminal outputs an active signal when the IGBT heatsink temperature (F7-07) reaches the IGBT temperature threshold (F8-47). 36: Output current limit exceeded When the output current of the AC drive is greater than F8-36 (Output overcurrent threshold) for a time exceeding F8-37 (Output overcurrent detection delay), the DO outputs an active signal. 37: Frequency lower limit reached (ON at stop) The terminal outputs an active signal when the running frequency reaches the frequency lower limit (F0-14). The terminal

	still outputs the active signal when the drive is in the stop state. 38: Alarm output Output(all faults) If a fault occurs on the AC drive and the AC drive continues to run upon fault, the DO outputs an active signal. For details about the fault protection action, see F9-47 to F9-50. 39: Motor overtemperature An active signal will be output when the motor temperature reaches the threshold defined by F9-58 (Motor overtemperature pre-alarm threshold). You can check the motor temperature using U0-34. 40: Current running time reached The terminal outputs an active signal when the current operation time of the AC drive is longer than the value of F8-53 (current running time threshold). 41: Fault output (undervoltage excluded) When a fault occurs on the AC drive (undervoltage excluded), the DO terminal outputs an active signal. 42: STO output When the STO function is triggered, the DO terminal outputs an active signal. 43: Operation output limited When minor fault that limits the normal operation occurs, the operating panel displays "Lxxx.y". 44: Brake output at stop (wire drawing machine) When the AC drive stops and the running frequency is lower than the brake frequency set by A7-30, the terminal outputs an active signal. After the brake delay time set by A7-31 expires, the terminal outputs an inactive signal. Others: B connector When this option is selected, the output function is the signal or function state of the parameter to which the connector is connected.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-03	Output function selection of DO4 on expansion card relay (P/A-P/B-P/C)	0xF503	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: No output	15: Ready to RUN	30: Timing reached
1: Drive operating	16: AI1 > AI2	31: AI1 input limit exceeded
2: Fault output	17: Frequency upper limit reached	32: Load loss
3: Frequency level detection (FDT1) output	18: Frequency lower limit reached (OFF at stop)	33: Reverse running
4: Frequency reached	19: Undervoltage status output	34: Zero current status
5: Operating at zero speed (OFF at stop)	20: Communication setting	35: Module temperature reached
6: Motor overload pre-alarm	21: Brake output	36: Output current limit exceeded
7: Drive overload pre-alarm	22: Reserved	37: Frequency lower limit reached (ON at stop)
8: Set counting value reached	23: Operating at zero speed 2 (ON at stop)	38: Alarm output (all faults)
9: Designated counting value		39: Motor overtemperature output

	reached 10：Length reached 11：Simple PLC cycle completed 12：Accumulative operating time reached 13：Wobble frequency limited 14：Torque limited	24：Accumulative power-on time reached 25：Frequency level detection (FDT2) output 26：Frequency 1 reached 27：Frequency 2 reached 28：Current 1 reached 29：Current 2 reached	40：Current operating time reached 41：Fault output (undervoltage excluded) 42：STO output 43：Operation output limited Others：B connector
	Description： 0: No output The output terminal has no function. 1: Running When the AC drive is running with output frequency (can be 0), the terminal outputs an active signal. 2: Fault output The DO outputs an active signal when the AC drive stops due to a fault. 3: Frequency level detection 1 (FDT1) output When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the FDT hysteresis value (product of F8-19 and F8-20), the active signal is canceled. 4: Frequency reached When the running frequency of the AC drive is within a certain range (target frequency±F8-21 x maximum frequency), the DO outputs an active signal. 5: Operating at zero speed (OFF at stop) When the output frequency is 0 during AC drive running, an active signal is output. When the AC drive is in the stop state, the signal is inactive. 6: Motor overload pre-alarm The AC drive judges whether the motor load exceeds the overload pre-alarm threshold according to the overload pre-alarm coefficient (F9-02) before performing the protection action. If the pre-alarm threshold is exceeded, this terminal outputs an active signal. (For calculation of the alarm threshold, see the description of motor overload protection.) 7: AC drive overload pre-alarm This output function provides an active signal 10s before the AC drive triggers overload protection. 8: Set counting value reached An active signal will be output when the counting value reaches the value of Fb-08. 9: Designated counting value reached An active signal will be output when the counting value reaches the value of Fb-09. 10: Length reached The terminal outputs an active signal when the detected actual length exceeds the value of Fb-05. 11: Simple PLC cycle completed The terminal outputs a pulse signal with width of 250 ms when the simple PLC completes one cycle. 12: Accumulative operating time reached The AC drive compares the cumulative running time and the time set by F8-17 and F8-75. If the former is greater than or equal to the latter, the terminal outputs an active signal.		

	13: Frequency limited The terminal outputs an active signal when the frequency reference exceeds the frequency upper or lower limit, and the output frequency of AC drive reaches the upper or lower limit. 14: Torque limited The terminal outputs an active signal when the output torque of AC drive reaches the toque limit in speed control mode. 15: Ready to RUN The terminal outputs an active signal when the AC drive is ready for running without any fault after power-on. 16: AI1 > AI2 The terminal outputs an active signal when the value input through AI1 is higher than AI2. 17: Frequency upper limit reached The terminal outputs an active signal when the running frequency reaches the frequency upper limit (F0-12). 18: Frequency lower limit reach (no output at stop) If F8-14 (running mode when frequency reference is below lower limit) is set to 1 (stop), the DO outputs an inactive signal no matter whether the running frequency reaches the frequency lower limit. When F8-14 (Running mode when frequency reference < frequency lower limit) is set to 0 (run at the frequency lower limit) or 2 (run at zero speed) and the running frequency reaches the lower limit, the terminal outputs an active signal. 19: Undervoltage state The terminal outputs an active signal when undervoltage occurs on the AC drive. 20: Communication The communication address 0x2001 determines whether the terminal is active or not. 21: Brake output An active signal will be sent when the brake is turned on. An inactive signal will be sent when the brake is turned off. 22: Reserved 23: Operating at zero speed 2 (ON at stop) When the output frequency is 0 during running, an active signal is output. The signal is still active when the AC drive stops. 24: Accumulative power-on time reached The AC drive compares the cumulative running time and the time set by F8-16 and F8-74. If the former is greater than or equal to the latter, the terminal outputs an active signal. 25: Frequency level detection FDT2 output (FDT2) When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the frequency detection hysteresis value (product of F8-28 and F8-29), the active signal is canceled. 26: Frequency 1 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-30 (Frequency detection value 1). Frequency detection range: F8-30 – F8-31 x F0-10 (Maximum frequency) to F8-30 + F8-31 x F0-10 27: Frequency 2 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-32 (Frequency detection value 2). Frequency detection range: F8-32 – F8-33 x F0-10 (Maximum frequency) to F8-32 + F8-33 x F0-10 28: Current 1 reached An active signal will be output when the output current of the AC drive is within the range of F8-38 (Detection level of current 1). Current detection range: F8-38 – F8-39 x F1-03 (rated motor current) to F8-38 + F8-39 x F1-03

	29: Current 2 reached An active signal will be output when the output current of the AC drive is within the range of F8-40 (Detection level of current 2). Current detection range = F8-40 – F8-41 x F1-03 (Rated motor current) to F8-40 + F8-41 x F1-03 30: Timing reached On the condition that the timing function (F8-42) is enabled, the terminal outputs an active signal when the current running time of AC drive reaches the set time. The timing duration is defined by F8-43 and F8-44. 31: AI1 input limit exceeded The terminal outputs an active signal when AI1 input is higher than the value of F8-46 (AI1 input voltage upper limit) or lower than the value of F8-45 (AI1 input voltage lower limit). 32: Load loss The terminal outputs an active signal when load loss occurs. 33: Reverse running The terminal outputs an active signal when the AC drive runs in the reverse direction. 34: Zero current state When the output current of the AC drive is within the zero-current range for a time exceeding F8-35 (Zero current detection delay), the DO outputs an active signal. Zero current detection range = 0 to F8-34 x F1-03 35: IGBT temperature reached The terminal outputs an active signal when the IGBT heatsink temperature (F7-07) reaches the IGBT temperature threshold (F8-47). 36: Output current limit exceeded When the output current of the AC drive is greater than F8-36 (Output overcurrent threshold) for a time exceeding F8-37 (Output overcurrent detection delay), the DO outputs an active signal. 37: Frequency lower limit reached (ON at stop) The terminal outputs an active signal when the running frequency reaches the frequency lower limit (F0-14). The terminal still outputs the active signal when the drive is in the stop state. 38: Alarm output Output(all faults) If a fault occurs on the AC drive and the AC drive continues to run upon fault, the DO outputs an active signal. For details about the fault protection action, see F9-47 to F9-50. 39: Motor overtemperature An active signal will be output when the motor temperature reaches the threshold defined by F9-58 (Motor overtemperature pre-alarm threshold). You can check the motor temperature using U0-34. 40: Current running time reached The terminal outputs an active signal when the current operation time of the AC drive is longer than the value of F8-53 (current running time threshold). 41: Fault output (undervoltage excluded) When a fault occurs on the AC drive (undervoltage excluded), the DO terminal outputs an active signal. 42: STO output When the STO function is triggered, the DO terminal outputs an active signal. 43: Operation output limited When minor fault that limits the normal operation occurs, the operating panel displays "Lxxx.y". 44: Brake output at stop (wire drawing machine) When the AC drive stops and the running frequency is lower than the brake frequency set by A7-30, the terminal outputs an active signal. After the brake delay time set by A7-31 expires, the terminal outputs an inactive signal.

	Others: B connector When this option is selected, the output function is the signal or function state of the parameter to which the connector is connected.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-04	DO1 function	0xF504	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: No output	16: AI1 > AI2	31: AI1 input limit exceeded
1: Drive operating	17: Frequency upper limit reached	32: Load loss
2: Fault output	18: Frequency lower limit reached (OFF at stop)	33: Reverse running
3: Frequency level detection (FDT1) output	19: Undervoltage status output	34: Zero current status
4: Frequency reached	20: Communication setting	35: Module temperature reached
5: Operating at zero speed (OFF at stop)	21: Brake output	36: Output current limit exceeded
6: Motor overload pre-alarm	22: Reserved	37: Frequency lower limit reached (ON at stop)
7: Drive overload pre-alarm	23: Operating at zero speed 2 (ON at stop)	38: Alarm output (all faults)
8: Set counting value reached	24: Accumulative power-on time reached	39: Motor overtemperature output
9: Designated counting value reached	25: Frequency level detection (FDT2) output	40: Current operating time reached
10: Length reached	26: Frequency 1 reached	41: Fault output (undervoltage excluded)
11: Simple PLC cycle completed	27: Frequency 2 reached	42: STO output
12: Accumulative operating time reached	28: Current 1 reached	43: Operation output limited
13: Wobble frequency limited	29: Current 2 reached	44: Brake output at stop (wire drawing machine)
14: Torque limited	30: Timing reached	Others: B connector
15: Ready to RUN		

Description:

0: No output

The output terminal has no function.

1: Running

When the AC drive is running with output frequency (can be 0), the terminal outputs an active signal.

2: Fault output

The DO outputs an active signal when the AC drive stops due to a fault.

3: Frequency level detection 1 (FDT1) output

When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the FDT hysteresis value (product of F8-19 and F8-20), the active signal is canceled.

	4: Frequency reached When the running frequency of the AC drive is within a certain range (target frequency±F8-21 x maximum frequency), the DO outputs an active signal. 5: Operating at zero speed (OFF at stop) When the output frequency is 0 during AC drive running, an active signal is output. When the AC drive is in the stop state, the signal is inactive. 6: Motor overload pre-alarm The AC drive judges whether the motor load exceeds the overload pre-alarm threshold according to the overload pre-alarm coefficient (F9-02) before performing the protection action. If the pre-alarm threshold is exceeded, this terminal outputs an active signal. (For calculation of the alarm threshold, see the description of motor overload protection.) 7: AC drive overload pre-alarm This output function provides an active signal 10s before the AC drive triggers overload protection. 8: Set counting value reached An active signal will be output when the counting value reaches the value of Fb-08. 9: Designated counting value reached An active signal will be output when the counting value reaches the value of Fb-09. 10: Length reached The terminal outputs an active signal when the detected actual length exceeds the value of Fb-05. 11: Simple PLC cycle completed The terminal outputs a pulse signal with width of 250 ms when the simple PLC completes one cycle. 12: Accumulative operating time reached The AC drive compares the cumulative running time and the time set by F8-17 and F8-75. If the former is greater than or equal to the latter, the terminal outputs an active signal. 13: Frequency limited The terminal outputs an active signal when the frequency reference exceeds the frequency upper or lower limit, and the output frequency of AC drive reaches the upper or lower limit. 14: Torque limited The terminal outputs an active signal when the output torque of AC drive reaches the toque limit in speed control mode. 15: Ready to RUN The terminal outputs an active signal when the AC drive is ready for running without any fault after power-on. 16: AI1 > AI2 The terminal outputs an active signal when the value input through AI1 is higher than AI2. 17: Frequency upper limit reached The terminal outputs an active signal when the running frequency reaches the frequency upper limit (F0-12). 18: Frequency lower limit reach (no output at stop) If F8-14 (running mode when frequency reference is below lower limit) is set to 1 (stop), the DO outputs an inactive signal no matter whether the running frequency reaches the frequency lower limit. When F8-14 (Running mode when frequency reference < frequency lower limit) is set to 0 (run at the frequency lower limit) or 2 (run at zero speed) and the running frequency reaches the lower limit, the terminal outputs an active signal. 19: Undervoltage state The terminal outputs an active signal when undervoltage occurs on the AC drive. 20: Communication The communication address 0x2001 determines whether the terminal is active or not.

	21: Brake output An active signal will be sent when the brake is turned on. An inactive signal will be sent when the brake is turned off. 22: Reserved 23: Operating at zero speed 2 (ON at stop) When the output frequency is 0 during running, an active signal is output. The signal is still active when the AC drive stops. 24: Accumulative power-on time reached The AC drive compares the cumulative running time and the time set by F8-16 and F8-74. If the former is greater than or equal to the latter, the terminal outputs an active signal. 25: Frequency level detection FDT2 output (FDT2) When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the frequency detection hysteresis value (product of F8-28 and F8-29), the active signal is canceled. 26: Frequency 1 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-30 (Frequency detection value 1). Frequency detection range: F8-30 – F8-31 x F0-10 (Maximum frequency) to F8-30 + F8-31 x F0-10 27: Frequency 2 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-32 (Frequency detection value 2). Frequency detection range: F8-32 – F8-33 x F0-10 (Maximum frequency) to F8-32 + F8-33 x F0-10 28: Current 1 reached An active signal will be output when the output current of the AC drive is within the range of F8-38 (Detection level of current 1). Current detection range: F8-38 – F8-39 x F1-03 (rated motor current) to F8-38 + F8-39 x F1-03 29: Current 2 reached An active signal will be output when the output current of the AC drive is within the range of F8-40 (Detection level of current 2). Current detection range = F8-40 – F8-41 x F1-03 (Rated motor current) to F8-40 + F8-41 x F1-03 30: Timing reached On the condition that the timing function (F8-42) is enabled, the terminal outputs an active signal when the current running time of AC drive reaches the set time. The timing duration is defined by F8-43 and F8-44. 31: AI1 input limit exceeded The terminal outputs an active signal when AI1 input is higher than the value of F8-46 (AI1 input voltage upper limit) or lower than the value of F8-45 (AI1 input voltage lower limit). 32: Load loss The terminal outputs an active signal when load loss occurs. 33: Reverse running The terminal outputs an active signal when the AC drive runs in the reverse direction. 34: Zero current state When the output current of the AC drive is within the zero-current range for a time exceeding F8-35 (Zero current detection delay), the DO outputs an active signal. Zero current detection range = 0 to F8-34 x F1-03 35: IGBT temperature reached The terminal outputs an active signal when the IGBT heatsink temperature (F7-07) reaches the IGBT temperature threshold (F8-47). 36: Output current limit exceeded

	When the output current of the AC drive is greater than F8-36 (Output overcurrent threshold) for a time exceeding F8-37 (Output overcurrent detection delay), the DO outputs an active signal. 37: Frequency lower limit reached (ON at stop) The terminal outputs an active signal when the running frequency reaches the frequency lower limit (F0-14). The terminal still outputs the active signal when the drive is in the stop state. 38: Alarm output Output(all faults) If a fault occurs on the AC drive and the AC drive continues to run upon fault, the DO outputs an active signal. For details about the fault protection action, see F9-47 to F9-50. 39: Motor overtemperature An active signal will be output when the motor temperature reaches the threshold defined by F9-58 (Motor overtemperature pre-alarm threshold). You can check the motor temperature using U0-34. 40: Current running time reached The terminal outputs an active signal when the current operation time of the AC drive is longer than the value of F8-53 (current running time threshold). 41: Fault output (undervoltage excluded) When a fault occurs on the AC drive (undervoltage excluded), the DO terminal outputs an active signal. 42: STO output When the STO function is triggered, the DO terminal outputs an active signal. 43: Operation output limited When minor fault that limits the normal operation occurs, the operating panel displays "Lxxx.y". 44: Brake output at stop (wire drawing machine) When the AC drive stops and the running frequency is lower than the brake frequency set by A7-30, the terminal outputs an active signal. After the brake delay time set by A7-31 expires, the terminal outputs an inactive signal. Others: B connector When this option is selected, the output function is the signal or function state of the parameter to which the connector is connected.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-05	Expansion card DO2 function	0xF505	Refer to "Value"	4	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value： Same as"F5-04"							
	Description： Same as"F5-04"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-06	FMP output function	0xF506	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real

								time

Value:

0: Running frequency
1: Frequency reference
2: Output current
3: Output torque (absolute value)
4: Output power
5: Output voltage
6: Pulse input
7: AI1
8: AI2
9: AI3
10: Length
11: Counting value
12: Communication setting
13: Motor speed
14: Output current (100% corresponding to 1000 A)
15: Bus voltage (100% corresponding to 1000 V)
16: Output torque (actual value)
Others: F connector

Description:

0: Operating frequency (100.0% corresponds to F0-10 (Maximum frequency))
1: Frequency reference (100.0% corresponds to F0-10 (Maximum frequency))
2: Output current (100.0% corresponds to 2 x rated current of the motor)
3: Motor output torque (100.0% corresponds to 2 x rated torque of the motor) (absolute value, percentage to the rated torque of the motor)
4: Output power (100.0% corresponds to 2 x rated power of the motor)
5: Output voltage (100.0% corresponds to 1.2 x rated voltage of the motor)
6: Pulse input (100.0% corresponds to 100.0 kHz)
7: AI1 (100.0% corresponds to 10 V))
8: AI2 (100.0% corresponds to 10 V)
9: AI3 (100.0% corresponds to 10 V)
10: Length (100.0% corresponds to Fb-05)
11: counting value (100.0% corresponds to Fb-08)
12: Communication setting (100.0% corresponds to AO communication setting)
13: Motor speed (100.0% corresponds to F0-10)
14: Output current (100.0% corresponds to 1000.0 A)
15: Bus voltage (100.0% corresponds to 1000.0 V)
16: Output torque (100.0% corresponds to 2 x rated torque of the motor; 50.0% corresponds to 0; 0.0% corresponds to - 2 x rated torque of the motor) (actual value, percentage to the rated torque of the motor)
Others: F connector
When "Others" is selected, the output function is the signal or function state of the parameter that the connector is connected to.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-07	AO1 function	0xF507	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:
Same as"F5-06"

	Description: Same as"F5-06"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-08	Expansion card AO2 function	0xF508	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: Same as"F5-07"							
	Description: Same as"F5-07"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-09	Maximum FMP output frequency	0xF509	0.01kHz~100.00kHz	50.00kHz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter indicates the maximum frequency (0.01 kHz to 100.00 kHz) of the FMP terminal output pulse.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-10	AO1 zero offset coefficient	0xF50A	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: On the AO curve, if b indicates zero offset, k indicates gain, and X indicates standard output, the actual output Y = kX + b. The zero offset coefficient 100% of AO1 and AO2 corresponds to 10 V (or 20 mA). The standard output refers to the value corresponding to the analog output of 0 V to 10 V (or 0 mA to 20 mA) without zero offset or gain adjustment. Zero offset = Zero offset coefficient x 10 V (or 20 mA) The AC drive provides two AOs, including AO1 and AO2, which can be used to indicate the internal running parameters in the analog mode. The indicated parameters are defined by F5-07 and F5-08.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-11	AO1 gain	0xF50B	-10.00~+10.00	1.00	Signed 16 bits	Real time changes	General user	Effective in real time

	Description: On the AO curve, if b indicates zero offset, k indicates gain, and X indicates standard output, the actual output Y is kX plus b (Y = kX + b). The zero offset coefficient 100% of AO1 and AO2 corresponds to 10 V (or 20 mA). The standard output refers to the value corresponding to the analog output of 0 V to 10 V (or 0 mA to 20 mA) without zero offset or gain adjustment. Zero offset = Zero offset coefficient x 10 V (or 20 mA) The AC drive provides two AOs, including AO1 and AO2, which can be used to indicate the internal running parameters in the analog mode. The indicated parameters are defined by F5-07 and F5-08.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-12	AO2 zero offset coefficient	0xF50C	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: On the AO curve, if b indicates zero offset, k indicates gain, and X indicates standard output, the actual output Y is kX plus b (Y = kX + b). The zero offset coefficient 100% of AO1 and AO2 corresponds to 10 V (or 20 mA). The standard output refers to the value corresponding to the analog output of 0 V to 10 V (or 0 mA to 20 mA) without zero offset or gain adjustment. Zero offset = Zero offset coefficient x 10 V (or 20 mA) The AC drive provides two AOs, including AO1 and AO2, which can be used to indicate the internal running parameters in the analog mode. The indicated parameters are defined by F5-07 and F5-08.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-13	AO2 gain	0xF50D	-10.00~+10.00	1.00	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: On the AO curve, if b indicates zero offset, k indicates gain, and X indicates standard output, the actual output Y is kX plus b (Y = kX + b). The zero offset coefficient 100% of AO1 and AO2 corresponds to 10 V (or 20 mA). The standard output refers to the value corresponding to the analog output of 0 V to 10 V (or 0 mA to 20 mA) without zero offset or gain adjustment. Zero offset = Zero offset coefficient x 10 V (or 20 mA) The AC drive provides two AOs, including AO1 and AO2, which can be used to indicate the internal running parameters in the analog mode. The indicated parameters are defined by F5-07 and F5-08.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-22	DO active mode	0xF516	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value:							

Bit	Name	Value
Ones	FMR	0: Positive logic 1: Negative logic
Tens	Relay1 (DO3)	0: Positive logic 1: Negative logic
Hundreds	Relay2 (DO4)	0: Positive logic 1: Negative logic
Thousands	DO1	0: Positive logic 1: Negative logic
Ten thousands	DO2	0: Positive logic 1: Negative logic

Description:

The ones, tens, hundreds, thousands, and ten thousands of this parameter are used to set the DOs to which F5-01 to F5-05 correspond.

0: Positive logic (same as NO contact)

Active state: The DO and the COM/CME terminal are internally connected.

Inactive: The DO and the COM/CME terminal are disconnected.

1: Negative logic (same as NC contact)

Active state The DO terminal is disconnected from the COM/CME terminal.

Inactive: The DO and the COM/CME terminal are connected inside the AC drive.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-24	Relay (DO3) switch-on delay time of the control board	0xF518	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter indicates the output delay of relay on the expansion card. F5-02 outputs an active signal after the set delay.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-25	Relay (DO3) switch-off delay of the control board	0xF519	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter indicates the output delay of relay on the expansion card. F5-02 outputs an active signal after the set delay.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-26	FMR output switch-on	0xF51A	0.0s~3600.0s	0.0s	Unsigned	Real time	General	Effective

	delay				16 bit	changes	user	in real time
	Description: This parameter indicates the FMR switch-on delay. F5-01 outputs an active signal after the set delay.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-27	FMR output switch-off delay	0xF51B	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter indicates the FMR switch-off delay. F5-01 outputs an active signal after the set delay elapses.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-28	DO1 output switch-on delay	0xF51C	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter indicates the switch-on delay of DO1 output. F5-04 outputs an active signal after the set delay elapses.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-29	DO1 output switch-off delay	0xF51D	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter indicates the switch-off delay of DO1 output. F5-04 outputs an active signal after the set delay elapses.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-30	Relay (DO4) switch-on delay time of expansion card	0xF51E	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter indicates the expansion card DO4 switch-on delay. F5-03 outputs an active signal after the set delay elapses.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F5-31	Relay (DO4) switch-off delay time of expansion card	0xF51F	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter indicates the expansion card DO4 switch-off delay. F5-03 outputs an active signal after the set delay elapses.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-32	Expansion card DO2 output switch-on delay	0xF520	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter indicates the expansion card DO2 switch-on delay. F5-05 outputs an active signal after the set delay elapses.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-33	Expansion card DO2 switch-off delay	0xF521	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter indicates the expansion card DO2 switch-off delay. F5-05 outputs an active signal after the set delay elapses.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-34	DO/RO source	0xF522	Refer to "Value"	0x0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
bit 0	RELAY1 (DO3) output source	0: Output function 1: Communication
Bit 1	FMR output source	0: Output function 1: Communication
bit 2	DO1 source	0: Output function 1: Communication
bit 3	RELAY2 (DO4) source	0: Output function 1: Communication
bit 4	DO2 source	0: Output function 1: Communication

bit 5	VDO1 source	0: Output function 1: Communication
bit 6	VDO2 source	0: Output function 1: Communication
bit 7	VDO3 source	0: Output function 1: Communication
bit 8	VDO4 source	0: Output function 1: Communication
bit 9	VDO5 source	0: Output function 1: Communication
bit 10	VDO6 source	0: Output function 1: Communication
bit 11	VDO7 source	0: Output function 1: Communication
bit 12	VDO8 source	0: Output function 1: Communication
bit 13	VDO9 source	0: Output function 1: Communication
bit 14	VDO10 source	0: Output function 1: Communication
bit 15	VDO11 source	0: Output function 1: Communication

Description:

Used to set DO, VDO, FMR output sources through bit0 to bit 16.

0: Output function

The output source is defined by the output function of DO, VDO, and FMR.

1: Communication

The output source is defined by external communication.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-35	DO/RO output terminal communication setting	0xF523	Refer to "Value"	0x0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
bit 0	RELAY1 (DO3) communication setting	0: Inactive level 1: Active level

bit 1	FMR communication setting	0: Inactive level 1: Active level
bit 2	DO1 setting	0: Inactive level 1: Active level
bit 3	RELAY2 (DO4) communication setting	0: Inactive level 1: Active level
bit4	DO2 communication setting	0: Inactive level 1: Active level
bit 5	VDO1 communication setting	0: Inactive level 1: Active level
bit 6	VDO2 communication setting	0: Inactive level 1: Active level
bit 7	VDO3 communication setting	0: Inactive level 1: Active level
bit 8	VDO4 communication setting	0: Inactive level 1: Active level
bit 9	VDO5 communication setting	0: Inactive level 1: Active level
bit 10	VDO6 communication setting	0: Inactive level 1: Active level
bit 11	VDO7 communication setting	0: Inactive level 1: Active level
bit 12	VDO8 communication setting	0: Inactive level 1: Active level
bit 13	VDO9 communication setting	0: Inactive level 1: Active level
bit 14	VDO10 communication setting	0: Inactive level 1: Active level
bit 15	VDO11 communication setting	0: Inactive level 1: Active level

Description:

Set the communication write values of DO, VDO, and FMR terminals through bit0 to bit15 of F5-34.

0: Inactive level

1: Active level

The output source is set through external communication.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-36	Minimum input of AO1 curve	0xF524	-100.0%~+F5-38	0.0%	Signed 16 bits	Real time changes	General user	Effective in real

								time
	Description: Corresponds to the x axis of the minimum input, that is, the minimum output frequency of the AO1 curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-37	Setpoint corresponding to minimum input of AO1 curve	0xF525	0.00V~10.00V	0.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Corresponds to the y axis of the minimum input, that is, the set value corresponding to the minimum output of AO1 curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-38	Maximum input of AO1 curve	0xF526	F5-36~100.0%	100.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Corresponds to the x axis of the maximum input, that is, the maximum output frequency of AO1 curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-39	Setpoint corresponding to maximum input of AO1 curve	0xF527	0.00V~10.00V	10.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Corresponds to the y axis of the maximum input, that is, the set value corresponding to the maximum output of AO1 curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-40	AO1 output offset	0xF528	-10.00V~+1 0.00V	0.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: AO1 curve linear parameters							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
F5-41	Minimum input of AO2 curve	0xF529	-100.0%~+F5-43	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Corresponds to the x axis of the minimum input, that is, the minimum output frequency of AO2 curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-42	Setpoint corresponding to minimum input of AO2 curve	0xF52A	0.00V~10.00V	0.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Corresponds to the y axis of the minimum input, that is, the set value corresponding to the minimum output of AO2 curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-43	Maximum input of AO2 curve	0xF52B	F5-41~100.0%	100.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Corresponds to the x axis of the maximum input, that is, the maximum output frequency of AO2 curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-44	Setpoint corresponding to maximum input of AO2 curve	0xF52C	0.00V~10.00V	10.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Corresponds to the y axis of the maximum input, that is, the set value corresponding to the maximum output of AO2 curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-45	AO2 output offset	0xF52D	-10.00V~+10.00V	0.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description:							

	AO2 curve linear parameters							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-46	AO curve	0xF52E	Refer to "Value"	11	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	AO1 curve	0: 2-point curve 1: Gain+Offset
Tens	AO2 curve	0: 2-point curve 1: Gain+Offset

Description:

Used to set the AO1 and AO2 curve types through the ones and tens of this parameter.

0: 2-point curve

Set the 2-point curve parameters of AO1 and AO2 through F5-36 to F5-45.

1: Gain + Deviation

Set the gain and deviation parameters of AO1 and AO2 through F5-10 to F5-13.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-47	AO polarity	0xF52F	Refer to "Value"	11	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	AO1	0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value
Tens	AO2	0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value

Description:

Set the AO1 and AO2 curve output polarity through the ones and tens of this parameter.

0: Normal

AO curve output value unchanged

1: Absolute value

Absolute value of AO curve output used

2: Reverse

AO curve output value inverted

3: Absolute value

Absolute value of AO curve output value phase inverted

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-48	AO hardware source	0xF530	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	AO1 source	0: Output function 1: Force setpoint
Tens	AO2 source	0: Output function 1: Force setpoint

Description:

Set the AO1 and AO2 curve input source through the ones and tens of this parameter.

0: Output function setting

Select the reference source based on F5-07 and F5-08.

1: Forced setting value

Select the forced output value based on F5-49 and F5-50.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-49	AO forced setpoint 1	0xF531	0.00V~10.00V	0.00V	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

AO1 forced output value 0 V to 10 V

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-50	AO forced setpoint 2	0xF532	0.00V~10.00V	0.00V	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

	AO2 forced output value 0 V to 10 V							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-51	Minimum input of HDO curve	0xF533	-100.00%~+ F5-53	0.00%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Corresponds to the x axis of the minimum input, that is, the minimum input frequency of HDO curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-52	Percentage corresponding to minimum input of HDO curve	0xF534	0.00%~100.00%	0.00%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Corresponds to the y axis of the minimum input, that is, the set value corresponding to the minimum input frequency of HDO curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-53	Maximum input of HDO curve	0xF535	F5-51~100.00%	100.00%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Corresponds to the x axis of the maximum input, that is, the maximum input frequency of HDO curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-54	Percentage corresponding to maximum input of HDO curve	0xF536	0.00%~100.00%	100.00%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Corresponds to the y axis of the maximum input, that is, the set value corresponding to the maximum input frequency of HDO curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F5-55	HDO polarity	0xF537	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones		0: Absolute value 1: Negated value 2: Negated absolute value 3: Absolute value inverted

Description:

Set the HDO output polarity through the ones of this parameter.

0: Normal

HDO output value unchanged

1: Absolute value

Absolute value of HDO output used

2: Inverted

HDO output value inverted

3: Absolute value inverted

Absolute value of HDO value phase inverted

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-56	HDO hardware source	0xF538	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: Output function

1: Force value

Description:

0: Setpoints of F5-51 to F5-55 determine the HDO output value.

1: The forced value set by F5-57 is used as the HDO output value.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F5-57	HDO forced setpoint	0xF539	0.00%~100.00%	0.00%	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

Output value of HDO forced setting (active when F5-56 = 1)

F6 Start/Stop control

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-00	Startup mode	0xF600	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Direct start 1: Flying start 2: Pre-excitation start (AC asynchronous motor) 3: SVC quick start							
	Description: This parameter is used to set the start mode of the motor. Flying start is recommended if you need to start a motor that is rotating at a high speed. The pre-excitation start and SVC quick start apply to AC asynchronous motors only. 0: Direct start The AC drive adopts direct start, which is suitable for most loads. 1: Flying start The AC drive first judges the speed and direction of the motor and starts at the motor frequency tracked. 2: Pre-excitation start (for AC asynchronous motor) This mode applies only to inductive AC asynchronous motors in SVC and FVC control modes. Pre-excitation of the motor before start can improve the responsiveness of the motor and reduce the starting current. 3: SVC quick start It is applicable only to the asynchronous motor SVC control mode. This mode can be used to shorten the acceleration time. This mode can be enabled when the system inertia is large and quick start is required, but a torque shock can also be generated.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-01	Speed tracking mode	0xF601	Refer to "Value"	4	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: From the stop frequency 1: From the power frequency 2: From the maximum frequency 3: Reserved 4: Magnetic field directional speed tracking (MD290)							
	Description: The start frequency of flying start upon restart varies with different modes. The motor rotation direction cannot be detected during flying start. Therefore, the direction defined by the present start							

	command must be the same as the direction at the last stop event. Otherwise, flying start fails. 0: Starting from the stop frequency The search mode from the stop frequency is to search for 0 Hz from the frequency at the previous stop. If external force drives the motor to a higher speed than the speed at stop, the flying start mode is not applicable. 1: Starting from the mains frequency This mode is applicable to the scenario where the motor is restarted after stop for a long time. 2: Starting from the max. frequency Track down from the max. frequency. This mode is applicable to generating loads. 3: Reserved 4: Magnetic field position-based speed tracking Used for fast speed tracking in V/f mode (static motor parameter auto-tuning is required).

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-02	Speed of speed tracking	0xF602	1~100	20	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to select the speed tracking speed. The higher the setpoint, the higher the tracking speed. But an excessively high value may lead to unstable tracking.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-03	Startup frequency	0xF603	0.00Hz~10.00Hz	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the startup frequency for direct start of the AC drive. When the frequency reference is lower than the startup frequency, the AC drive will not start but stay standby.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-04	Startup frequency hold time	0xF604	0.0s~100.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter defines the hold time during which the output frequency remains at the startup frequency. After this hold time elapses, the AC drive will accelerate/decelerate to the reference frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F6-05	DC braking current at startup	0xF605	0%~100%	50%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: A larger DC braking current indicates stronger braking force. 100% corresponds to the rated motor current (the current upper limit is 80% of the rated current of the AC drive).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-06	DC braking time at startup	0xF606	0.0s~100.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter defines the time for DC braking at startup, which is valid only when the startup mode is direct start.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-07	Acceleration/Deceleration mode	0xF607	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Straight-line acceleration/deceleration 1: S-curve acceleration/deceleration							
	Description: This parameter is used to select the acceleration/deceleration mode of the AC drive. 0: Linear acceleration/deceleration The output frequency increases or decreases linearly. 1: S-curve acceleration/deceleration When the target frequency changes dynamically in real time, the output frequency increases or decreases based on the S-curve. This mode is applicable to applications requiring smooth operation and quick response in real time.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-08	Time proportion of S-curve start segment	0xF608	0.0%~100.0%	30.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The value ranges from 0.0 to 100.0% minus the value of F6-09.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-09	Time proportion of S-curve end segment	0xF609	0.0%~100.0%	30.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The value ranges from 0.0 to 100.0% minus the value of F6-08.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-10	Stop mode	0xF60A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Decelerate to stop 1: Coast to stop 2: Stop at maximum capability							
	Description: This parameter is used to select the stop mode of the AC drive. 0: Decelerate to stop Once the stop command is input, the AC drive decreases the output frequency to 0 and then stops based on the deceleration time. 1: Coast to stop Once the stop command is input, the AC drive immediately stops output. The motor then coasts to stop based on the mechanical inertia. 2: Stop at maximum capability. The motor speed reference is set to 0 forcibly. The motor decelerates to 0 based on the maximum output capacity. The motor torque or current may reach the limit value during deceleration.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-11	Start frequency of DC braking at stop	0xF60B	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: During decelerating to stop, the drive starts DC braking when the operating frequency drops below the value of F6-11.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F6-12	DC braking delay at stop	0xF60C	0.0s~100.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the operating frequency decreases to the start frequency of DC braking for stop, the drive stops output for a period set by F6-12 and then starts DC braking. This prevents faults such as overcurrent caused by DC braking at a high speed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-13	DC braking current at stop	0xF60D	0%~100%	50%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: A greater DC braking current indicates greater braking force. The setpoint 100% corresponds to the rated motor current. The upper limit of the current is 80% of the rated current of the drive. which can be set by F6-34. The maximum upper limit of the DC braking current for stop is 135% of the rated drive current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-14	DC braking time at stop	0xF60E	0.0s~100.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: If it is set to 0, DC braking is disabled. If it is set to 0, DC braking is disabled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-15	Braking transistor usage	0xF60F	0%~100%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Determines the duty cycle for braking transistor ON. The value 100% indicates continuous ON (valid for models with built-in braking unit). When the braking transistor usage is set to a value lower than 50%, the switch-off time of each cycle is 2 ms. The switch-on time increases as the set braking transistor usage increases. When the braking transistor usage is set to a value higher than 50%, the switch-on time is 2 ms per cycle. The switch-off time decreases as the braking transistor usage increases. For models that support braking sampling, if the resistance of the braking resistor is low, the actual current is higher than the maximum current of the AC drive braking transistor. In this case, overcurrent is reported and the braking transistor is overloaded.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-16	Speed tracking sweep current limit closed loop Kp	0xF610	0~1000	500	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: It takes effect when F6-01 is set to 0, 1, or 2. It is used to set the proportional gain of the current suppression PI regulator during the speed search process in the flying start mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-17	Frequency sweeping current amplitude closed-loop Ki in speed tracking	0xF611	0~1000	800	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Close-loop current Ki in torque tracking							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-18	Speed tracking current	0xF612	30%~200%	80%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Generally, overcurrent will occur on the asynchronous motor due to large slip when flying start is adopted. The current must be limited for preventing overcurrent. This parameter is used to set the motor current to be suppressed in the process of flying start.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-19	Current loop multiple	0xF613	10%~600%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the current loop regulation coefficient during speed tracking. The higher the current, the quicker the tracking speed. But an excessively high setpoint may lead to oscillation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-20	S-curve setting mode	0xF614	Refer to "Value"	0	Unsigned	Shutdown	General	Effective

					16 bit	change	user	in real time
	Value： 0： Symmetrical mode 1： Separate setting of acceleration and deceleration arcs							
	Description： Used to select the arc setting mode of the S-curve. You can set symmetric S-curves or asymmetric S-curves with different parameters activated. 0: Symmetric mode The settings of F6-08 and F6-09 take effect. 1: Acceleration/Deceleration arc set separately The settings of A4-67 to A4-70 take effect.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-21	Demagnetization time (valid for asynchronous motors)	0xF615	0.00s~5.00s	0.50s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： This parameter defines the minimum waiting time for restart after shutdown.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-22	Start/Stop frequency reference follow-up	0xF616	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value： 0： 0 1： 1 2： Reserved 3： DI1 4： DI2 5： DI3 6： DI4 7： DI5 8： DI6 9： DI7 10： DI8 11： DI9 12： DI10 13： DI11 14： DI12 15： DI13 16： DI14 17： DI15 18： DI16 Others： B connector							
	Description： Used to enable start/stop frequency reference following. When this function is active, the frequency reference starts accelerate/decelerate from current feedback frequency upon restart after stop. 0: Disabled 1: Active							

	3 to 18: Active control through DI terminals high/low level Others: B connector Determined by the signal or function state of the parameter that the connector is connected to.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-23	Over-excitation enable	0xF617	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: Activated when the motor is in the deceleration and power generation state 2: Activated when the motor is in the deceleration state and the bus voltage boost exceeds the threshold							
	Description: Used to set the over-excitation trigger condition. When the energy generated during deceleration is too large, the energy generated can be partially consumed by switching on the over-excitation. 0: Disabled 1: Active when the motor is decelerating and generating 2: Active when the motor decelerates and the bus voltage pump rises above the threshold (the bus voltage threshold is the value of overvoltage suppression threshold minus 100 V)							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-24	Over-excitation suppression additional current value	0xF618	0%~200%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the current amplitude superimposed based on the original excitation current, which is a ratio to the rated motor current.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-26	Braking transistor auto-inspection	0xF61A	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: OFF 1: Enable							
	Description: The braking transistor is turned on forcibly for models with brake. This function is used for commissioning or testing.							

0: Off

The braking transistor auto-inspection function and the braking transistor are turned off.

1: Enable

The braking transistor auto-inspection function and the braking transistor are turned on, which is used in professional commissioning and testing applications.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-28	Manual auto-inspection enable	0xF61C	Refer to "Value"	0x7	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
bit0	IGBT shoot-through auto-inspection upon startup	0: Disabled 1: Enabled
bit1	Short-to-ground auto-inspection upon startup	0: Disabled 1: Enabled
bit2	Phase loss auto-inspection upon startup	0: Disabled 1: Enabled
bit3	Reserved	

Description:

Used to configure sub-project of manual inspection. After the configuration is enabled, select different inspection commands through F6-29.

Each sub-project uses a separate bit to control the function enable. The setpoint 1 indicates "enable" and 0 indicates "disable".

Bit 0: IGBT short circuit inspection upon power-on

0: Disable

1: Enable

Bit 1: Inspection on short-circuited to ground

0: Disable

1: Enable

Bit 2: Phase loss inspection upon power-on

0: Disable

1: Enable

Bit 3: Reserved

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-29	Manual inspection command	0xF61D	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real

								time
	Value: 0: None 1: Static auto-inspection 2: Complete auto-inspection 3: Static fault auto-diagnosis 4: With-load rotary fault auto-diagnosis 5: With-load rotary fault auto-diagnosis							
	Description: Used to select different auto-inspection modes. The auto-inspection items are configured through F6-28. After auto-inspection is done, the parameter value restored to 0. 0: None 1: Static auto-inspection (encoder excluded) 2: Complete auto-inspection 3: Static fault auto-diagnosis 4: With-load rotary fault auto-diagnosis 5: With-load rotary fault auto-diagnosis							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-31	Active short circuit control	0xF61F	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Used to enable/disable the active short circuit control, which applies to synchronous motors to allow braking upon active short circuit control. 0: Disable 1: Enable							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-32	Delay time for entering active short circuit control	0xF620	0.0ms~5000.0ms	0.0ms	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the delay time before active short circuit control applies.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F6-33	Holding time of active short circuit control at stop	0xF621	0.1s~3600.0s	10.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: After entering the active short circuit control state, the motor exits after the hold time elapses. The active short circuit control state remains within the hold time.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-34	Current hysteresis loop high point coefficient in active short circuit control	0xF622	0.0%~120.0%	80.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated drive current is used as the basis. The actual hysteresis loop high point current is the min. value among voltage regulation, the highest safety current, and the setting value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-35	Current hysteresis loop high/low point coefficient ratio in active short circuit control	0xF623	0.0%~99.9%	90.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the hysteresis loop width of the current in active short circuit control, which is lower than 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-36	Overvoltage threshold in active short circuit control	0xF624	330.0V~820.0V	780.0V	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The active short circuit control is turned off when this voltage hysteresis loop is exceeded.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-37	Voltage control point in active short circuit control	0xF625	330.0V~F6-36	750.0V	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description:							

	Defines the voltage control point during active short circuit control.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-38	Voltage control bandwidth in active short circuit control	0xF626	0.00Hz~100.00Hz	5.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the p value of voltage control. The PI input is the error voltage. The output is the high point of hysteresis loop current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-39	Voltage control time constant in active short circuit control	0xF627	0.001s~10.000s	0.500s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the i value that controlled by voltage. The higher the setpoint, the lower the value of ki.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-40	DC injection braking current rise time	0xF628	0.00s~100.00s	0.00s	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the time for braking current to rise to the target current during DC braking.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F6-41	DC braking superposition frequency	0xF629	0.00Hz~100.00Hz	0.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used for start of synchronous motor without auto-tuning.							

F7 Keypad Operation and LED Display

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
F7-01	MF.K key function	0xF701	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Invalid 1: Operating panel control 2: Switched between forward run and reverse run 3: Forward jog 4: Reverse jog							
	Description: Used to select the function of the MF.K key. 0: Invalid This key has no function. 1: Operating panel control If F0-02 is set to 0 (operating panel), the MF.K key is unavailable. If F0-02 is set to 1 (terminal), 2 (communication), or 3 (self-defined control mode), pressing the MF.K key forcibly changes the control mode to the operating panel control mode. 2: Switched between forward run and reverse run This function is valid only when the command source is set to operating panel. 3: Forward jog This function is valid only when the command source is set to operating panel. 4: Reverse jog (RJOG) This function is valid only when the command source is set to operating panel.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-02	STOP/RESET key function	0xF702	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Valid only in operating panel control mode 1: Valid in OFF1 (start/stop) command 2: Valid in OFF2 (coast to stop) command 3: Valid in OFF3 (quick stop)							
	Description: This parameter is used to set the function of the STOP/RESET key on the operating panel. 0: Valid only in operating panel control mode The STOP/RES key is valid only in the operating panel control mode. 1: Valid only in OFF1 (start/stop) command The STOP/RES key is valid in any operating mode, and the AC drive stops according to the OFF1 stop mode. 2: Valid in OFF2 (coast to stop) command							

	The STOP/RES key is valid in any operating mode, and the AC drive stops according to OFF2 stop mode 3: Valid in OFF3 (coast to stop) command The STOP/RES key is valid in any operating mode, and the AC drive stops according to OFF3 stop mode

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-03	LED display 1 in running state	0xF703	Refer to "Value"	0x1F	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name
Bit 0	Running frequency (Hz)
Bit 1	Frequency Reference (Hz)
Bit 2	Bus voltage (V)
Bit 3	Output voltage (V)
Bit 4	Output current (A)
Bit 5	Output power (kW)
Bit 6	Output torque (%)
Bit 7	DI state
Bit 8	DO state
Bit 9	AI1 voltage (V)
Bit 10	AI2 voltage (V)
Bit 11	AI3 voltage (V)
Bit 12	counting value
Bit 13	Length value
Bit 14	Load speed
Bit 15	PID reference

Description:

This parameter defines the parameters displayed on the LED operating panel when the AC drive is running.

You can view the parameters corresponding to each bit by pressing the left and right shift keys.

The value 1 of a bit indicates that the parameter is displayed, and the value 0 of the bit indicates that the parameter is hidden.

Each parameter is displayed in the hexadecimal format.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-04	LED display 2 in running state	0xF704	Refer to "Value"	0x0	Unsigned 16 bit	Real time changes	General user	Effective in real

								time

Value:

Bit	Name
bit0	PID feedback
bit1	PLC stage
bit2	Pulse input frequency (kHz)
bit3	Running frequency 2 (Hz)
bit4	Remaining running time
bit5	AI1 voltage before correction (V)
bit6	Free mapping 0
bit7	Free mapping 1
bit8	Motor speed
bit9	Current power-on time (Hour)
bit10	Current operating time (min)
bit11	PULSE input frequency (Hz)
bit12	Communication setting value
bit13	Encoder feedback speed
bit14	Display of main frequency X
bit15	Display of auxiliary frequency Y

Description:

This parameter defines the parameters displayed on the LED operating panel when the AC drive is running.

You can view the parameters corresponding to each bit by pressing the left and right shift keys.

The value 1 of a bit indicates that the parameter is displayed, and the value 0 of the bit indicates that the parameter is hidden.

Each parameter is displayed in the hexadecimal format.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-05	LED display in stop state	0xF705	Refer to "Value"	0x33	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name
bit0	Set frequency (Hz)
bit1	Bus voltage (V)
bit2	DI status
bit3	DO status

bit4	AI1 voltage (V)
bit5	AI2 voltage (V)
bit6	AI3 voltage (V)
bit7	counting value
bit8	Length value
bit9	PLC stage
bit10	Load speed
bit11	PID setting
bit12	Pulse input frequency (kHz)
bit13	Reserved
bit14	Free mapping 0
bit15	Free mapping 1

Description:
This parameter defines the parameters displayed on the LED operating panel when the AC drive is in stop state.
You can view the parameters corresponding to each bit by pressing the left and right shift keys.
The value 1 of a bit indicates that the parameter is displayed, and the value 0 of the bit indicates that the parameter is hidden.
Each parameter is displayed in the hexadecimal format.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-06	Load speed display coefficient	0xF706	0.0001~6.5000	1.0000	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:
Indicates the ratio between the actual load and motor speed. You can change the load speed display (U0-14) through adjusting this coefficient.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-07	Heatsink temperature of IGBT	0xF707	-20°C~+120°C	0°C	Signed 16 bits	Cannot be changed	General user	Effective in real time

Description:
Indicates the inverter heatsink temperature.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F7-08	Product SN	0xF708	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: This parameter shows the product No. of the AC drive.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-09	Accumulative running duration (hour)	0xF709	0h~65535h	0h	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: This parameter indicates the accumulative running time of the AC drive.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-10	Performance software version	0xF70A	0.00~655.35	0.00	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: This parameter indicates the performance software version of the AC drive.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-11	Function software version	0xF70B	0.00~655.35	0.00	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: This parameter indicates the function software version of the AC drive.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-12	Number of decimal places for load speed display	0xF70C	Refer to "Value"	220	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: Bit / Name / Value							

Ones	Number of decimal places of U0-14/U0-24	0: 0 decimal places 1: 1 decimal place 2: 2 decimal places
Tens	Number of decimal places of U0-19/U0-29	0: 0 decimal places 1: 1 decimal place 2: 2 decimal places
Hundreds	Number of decimal places of U0-30/U0-31	1: 1 decimal place 2: 2 decimal places

Description:
Indicates the number of decimal places of U0-14/U0-24.
0: 0 decimal places
No decimal place is retained after the decimal point.
1: 1 decimal place
One decimal place is retained after the decimal point.
2: 2 decimal places
Two decimal places are retained after the decimal point.
Indicates the number of decimal places of U0-19/U0-29.
0: 0 decimal places
No decimal place is retained after the decimal point.
1: 1 decimal place
One decimal place is retained after the decimal point.
2: 2 decimal places
Two decimal places are retained after the decimal point.
Indicates the number of decimal places of U0-30/U0-31.
0: 0 decimal places
No decimal place is retained after the decimal point.
1: 1 decimal place
One decimal place is retained after the decimal point.
2: 2 decimal places
Two decimal places are retained after the decimal point.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-13	Accumulative power-on duration (hour)	0xF70D	0h~65535h	0h	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: This parameter indicates the accumulative power-on time of the AC drive.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F7-14	Accumulative power consumption	0xF70E	0kWh~65535kWh	0kWh	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the accumulative power consumption of the AC drive.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-15	Temporary performance software version	0xF70F	0.00~655.35	0.00	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: This parameter indicates the temporary performance software version of the AC drive.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-16	Temporary function software version	0xF710	0.00~655.35	0.00	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: This parameter indicates the temporary function software version of the AC drive.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-17	Level 0 menu display address (free mapping 0)	0xF711	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Invalid address 0: K-connector							
	Description: Corresponds to the variable displayed by the free mapping 0 in F7-05. After you set the address of the free mapping 0, you can display the connector value set by the parameter through the free mapping 0 menu.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-18	Level 0 menu display address (free	0xF712	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real

	mapping 1)							time
	Value： 0： Invalid address 0： K-connector							
	Description： Corresponds to the variable displayed by the free mapping 1 in F7-05. After you set the address of free mapping 1, you can display the connector value set by the parameter through free mapping 1 in the Level 0 menu.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-19	Level 0 menu display format (free mapping 0)	0xF713	Refer to "Value"	0x0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value：

Bit	Name	Value
Ones	Unit	0: None 1: Hz 2: A 3: RPM 4: V 5: Link 6: % 7: s 8: h 9: kW 10: kWh 11: ℃
Tens	Decimal place	0: 0 decimal places 1: 1 decimal place 2: 2 decimal places 3: 3 decimal places 4: 4 decimal places
Hundreds	Enable	0: Disable 1: Enable

Description：

Ones: Used to select the unit of parameter of free mapping 0.

Tens: Used to select the number of decimal points of the parameter of free mapping 0.

Hundreds: Enable bit

	0: Disable 1: The value of the free mapping 0 is displayed in the unit set by ones and the number decimal points set by tens.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-20	Level 0 menu display format (free mapping 1)	0xF714	Refer to "Value"	0x0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Unit	0: None 1: Hz 2: A 3: RPM 4: V 5: Link 6: % 7: s 8: h 9: kW 10: kWh 11: °C
Tens	Decimal place	0: 0 decimal places 1: 1 decimal place 2: 2 decimal places 3: 3 decimal places 4: 4 decimal places
Hundreds	Enable	0: Disable 1: Enable

Description:

Ones: Used to select the unit of parameter of free mapping 1.

Tens: Used to select the number of decimal points of the parameter of free mapping 1.

Hundreds: Enable bit

0: Disable

1: The value of the free mapping 1 is displayed in the unit set by ones and the number decimal points set by tens.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-21	LED operating panel key test	0xF715	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

	Value: 0: Disabled 1: Enabled
	Description: Setting this parameter to 1 enables the LED operating panel key test mode. In this mode, the test value changes each time a key is pressed. After all keys are pressed, the test is successful and "-PASS" is displayed. Then the system automatically exits the test mode.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-22	LED display update cycle	0xF716	10~300	10	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The values on the LED operating panel are filtered to prevent the parameters from jumping too fast and causing difficulty in reading the values. The display update cycle is the filter time.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-23	LED display of direction	0xF717	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Direction display at stop	0: Not displayed 1: Displayed
Tens	Reserved	0: Reserved 1: Reserved

Description:
If the ones place is set to 0, the LED operating panel does not display the reference frequency direction at stop.
If the ones place is set to 1, the LED operating panel displays the reference frequency direction at stop.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-28	Accumulative running duration (second)	0xF71C	0s~3599s	0s	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the accumulative running time in seconds.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-29	Accumulative power-on duration (second)	0xF71D	0s~3599s	0s	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the accumulative power-on time in seconds.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-30	Auxiliary calculation of accumulative power consumption	0xF71E	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates auxiliary calculation of accumulative power consumption.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-31	Auxiliary calculation of accumulative power consumption of group U0	0xF71F	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates auxiliary calculation of accumulative power consumption.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-32	Low-order bits of accumulative power consumption	0xF720	0.0kWh~6553.5kWh	0.0kWh	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the low bit of accumulative power consumption. When reaching 999.9 kWh, the high bit of accumulative power consumption is added by 1. This parameter value is retentive upon power failure.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-33	High-order bits of accumulative power consumption	0xF721	0kWh~65535kWh	0kWh	Unsigned 16 bit	Cannot be changed	General user	Effective in real time

	Description: Displays high bits of accumulative power consumption. This parameter value is retentive upon power failure.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-34	Cumulative energy saving G	0xF722	0GWh~65535GWh	0GWh	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Accumulative energy saved during operation in GWh							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-35	Cumulative energy saving M	0xF723	0MWh~999MWh	0MWh	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Accumulative energy saved during operation in MWh							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-36	Cumulative energy saving K	0xF724	0.0kWh~999.9kWh	0.0kWh	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the cumulative energy saved during operation in kWh.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-37	Cumulative cost saving K	0xF725	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the cumulative cost (above 1,000) saved during operation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-38	Cumulative cost saving	0xF726	0.0~999.9	0.0	Unsigned 16 bit	Cannot be changed	General user	Effective in real

								time
	Description: Indicates the cumulative cost (below 1,000) saved during operation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-39	Cumulative CO2 reduction (KT)	0xF727	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the cumulative CO2 emission reduction (above 1 kt) during operation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-40	Cumulative CO2 reduction (T)	0xF728	0.0~999.9	0.0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the cumulative CO2 emission reduction (below 1 kt) during operation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-41	Cumulative energy auxiliary calculation 1	0xF729	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the cumulative auxiliary calculation kWh hours.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-42	Cumulative energy auxiliary calculation 2	0xF72A	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the cumulative auxiliary calculation of kW in kWh							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-43	Energy tax rate 1	0xF72B	0.0~6553.5	0.0	Unsigned	Real time	General	Effective

					16 bit	changes	user	in real time
	Description: Customized energy tax rate 1, converted amount							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-44	Energy tax rate 2	0xF72C	0.0~6553.5	0.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Customized energy tax rate 2, converted amount							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-45	Tax rate	0xF72D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Energy tax rate 2 1: Energy tax rate 1							
	Description: Used to select the tax rate. Tax rates 2 and 1 only indicate the proportional conversion relation of different parameter setpoints. 0: Energy tax rate 2 (F7-44) 1: Energy tax rate 1 (F7-43)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-46	Currency unit	0xF72E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: RMB 1: EUR 2: USD							
	Description: Used to select the currency unit.							

	0: RMB, which represents RMB 1: EUR, which represents the Euro 2: USD, which represents the US dollar

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-47	CO2 conversion factor	0xF72F	0.000~65.535	0.000	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the conversion coefficient of CO2 emission. Based on the value set in this parameter, the calculated values of F7-39 and F7-40 can be adjusted accordingly.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-48	Reference power	0xF730	0.0kW~6553.5kW	0.0kW	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Enter theoretical operating power manually.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-49	Cumulative reset of energy calculation	0xF731	0~1	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Reset all accumulative data.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-50	3000H status word display	0xF732	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Display all status 1: Not display motor parameter tuning/fault status							
	Description: Used to select the display scheme of 3000H status word.							

	When this parameter is set to 0, 3000H displays the following status: 1: Forward rotation 2: Reverse rotation 3: Stop 4: Motor parameter auto-tuning 5: Stop When this parameter is set to 1, the 3000H displays the following status: 1: Forward 2: Reverse 3: Stop

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F7-51	Filter time setting of U0-29	0xF733	0.000s~10.000s	0.030s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the encoder feedback filter time of U0-29.							

F8 Auxiliary functions

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-00	Jog frequency	0xF800	0.00Hz~F0-10	2.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the running frequency of the AC drive in jogging mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-01	Jog acceleration time	0xF801	0.0s~6500.0s	20.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the acceleration time of the AC drive in jogging mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F8-02	Jog deceleration time	0xF802	0.0s~6500.0s	20.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the deceleration time of the AC drive in jogging mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-03	Acceleration time 2	0xF803	0.0s~6500.0s	20.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The drive provides four groups of acceleration time, which can be selected by using the parameter (F8-25/F8-26) or DI terminal (DI functions 16/17). This parameter specifies the second group of acceleration time.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-04	Deceleration time 2	0xF804	0.0s~6500.0s	20.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The drive provides four groups of deceleration time, which can be selected by using the parameter (F8-25/F8-26) or DI terminal (DI functions 16/17). This parameter specifies the second group of deceleration time.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-05	Acceleration time 3	0xF805	0.0s~6500.0s	20.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The AC drive provides four groups of acceleration time, which can be selected by using the parameter or DI terminal (DI functions 16/17). This parameter specifies the third group of acceleration time.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-06	Deceleration time 3	0xF806	0.0s~6500.0s	20.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	The AC drive provides four groups of deceleration time, which can be selected by using the parameter or DI terminal (DI functions 16/17). This parameter specifies the third group of deceleration time.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-07	Acceleration time 4	0xF807	0.0s~6500.0s	20.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The AC drive provides four groups of acceleration time, which can be selected by using the parameter or DI terminal (DI functions 16/17). This parameter specifies the fourth group of acceleration time.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-08	Deceleration time 4	0xF808	0.0s~6500.0s	20.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The AC drive provides four groups of deceleration time, which can be selected by using the parameter or DI terminal (DI functions 16/17). This parameter specifies the fourth group of deceleration time.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-09	Skip frequency 1	0xF809	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The drive can avoid the mechanical resonance point of the load through the jump frequency. Note: This parameter defines the first jump frequency. If it is set to 0, the first jump frequency function is canceled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-10	Skip frequency 2	0xF80A	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The drive can avoid the mechanical resonance point of the load through the jump frequency. Note: This parameter defines the second jump frequency. If it is set to 0, the second jump frequency function is canceled.							

Param	Name	Communication	Range	Default	Data	Change	User	Effective

		address			type	mode	authority	mode
F8-11	Skip frequency band	0xF80B	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: During acceleration, when the running frequency increases to a value that is close to the skip frequency, the AC drive runs for a period at the current frequency and then skips over the skip frequency. The skip range is twice the value of F8-11 (skip frequency band). During deceleration, when the running frequency decreases to a value that is close to the skip frequency, the AC drive runs for a period at the current frequency and then skips over the skip frequency. The skip range is twice the value of F8-11 (skip frequency band).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-12	FWD/REV switchover dead-zone time	0xF80C	0.0s~3000.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the transition time at 0 Hz output during transition between forward running and reverse running.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-13	Reverse frequency inhibition	0xF80D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: When the frequency defined by communication or analog reference is a negative value, the motor operating direction changes. The frequency in this case is called reverse frequency. You can set whether to allow the motor to operate in reverse state through this parameter. When reverse operation of the motor is not allowed, set F8-13 to 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-14	Running mode when frequency reference below lower limit	0xF80E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

	Value: 0: Run at frequency lower limit 1: Stop 2: Run at zero speed 3: Coast to stop
	Description: 0: Run at frequency lower limit If the running frequency is lower than the frequency lower limit, the AC drive runs at the frequency lower limit. 1: Stop If the running frequency is lower than the frequency lower limit, the AC drive stops. 2: Run at zero speed If the running frequency is lower than the frequency lower limit, the AC drive runs at zero speed. 3: Coast to stop If the running frequency is lower than the frequency lower limit, the AC drive coasts to stop.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-15	Droop control	0xF80F	0.00%~10.00%	0.00%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This function is used for balancing the workload allocation when multiple motors are used to drive the same load. The output frequency of the AC drives decreases as the load increases. You can reduce the workload of the motor under load by decreasing the output frequency for this motor, implementing workload balancing amongst multiple motors							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-16	Power-on duration threshold (hour)	0xF810	0h~65535h	0h	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: If the accumulative power-on time reaches the value set by F8-16 and F8-74, and the set power-on time is not zero, the multi-function DO outputs ON signal. Note: The DO function 24 represents "accumulative power-on time reached".							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-17	Running duration threshold (hour)	0xF811	0h~65535h	0h	Unsigned 16 bit	Real time changes	General user	Effective in real time

	Description: Used to set the accumulative running time threshold of the AC drive. If the accumulative operating time reaches the value set by F8-17 and F8-75, and the set operating time is not zero, the multi-function DO terminal outputs ON signal.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-18	Startup protection	0xF812	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: It is used for safety protection function of the drive. If it is set to 1, the AC drive does not respond to the run command valid upon AC drive power-on (for example, an input terminal is ON before power-on). The AC drive responds only after the run command is canceled and becomes valid again. In addition, the AC drive does not respond to the run command valid upon fault reset of the AC drive. The run protection can be disabled only after the run command has been canceled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-19	Frequency detection value (FDT1)	0xF813	0.00Hz~F0-10	50.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the running frequency of the AC drive is higher than the frequency detection value (FDT1), the DO outputs an active signal. When the running frequency of the AC drive is lower than the result of frequency detection value (FDT1) minus frequency detection hysteresis value (FDT1), the DO outputs an inactive signal. Note: The valid range is from 0.00 Hz to F0-10 (maximum frequency).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-20	Frequency detection hysteresis (FDT1)	0xF814	0.0%~100.0%	5.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The frequency detection hysteresis value (FDT1) is the result of F8-19 x F8-20. When the running frequency is higher than or equal to F8-19, the DO outputs an active signal. When the running frequency is lower than a specific value (F8-19 - F8-19 x F8-20), the DO outputs an inactive signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-21	Frequency reach detection range	0xF815	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the running frequency of the AC drive is within (Frequency reference±Max. Frequency (F0-10) x Frequency detection amplitude (F8-21)), the DO outputs an active signal. Note 1: The max. frequency is used as the base of percentage. Note 2: The range includes the maximum and minimum values.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-22	Skip frequency enable during acceleration/deceleration	0xF816	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: This parameter is used to enable or disable the jump frequency function during acceleration/deceleration. 0: Disabled When the parameter is set to 0, the AC drive continues to run at the running frequency when the running frequency accelerates to near the jump frequency during acceleration and deceleration. 1: Enabled When the parameter is set to 1, the AC drive jumps over the jump frequency when the running frequency accelerates near the jump frequency during acceleration and deceleration. The jump band is twice F8-11 (Jump frequency band).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-23	Output voltage filter	0xF817	1~65535	128	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the average filter coefficient of output voltage, which acts on U0-03.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-24	Output power filter	0xF818	1~65535	128	Unsigned	Real time	General	Effective

					16 bit	changes	user	in real time
	Description: Indicates the average filter coefficient of output power, which acts on U0-05.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-25	Switchover frequency of acceleration time 1 and acceleration time 2	0xF819	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This function is used to switch the acceleration/deceleration time based on the running frequency range when the AC drive is running. Note 1: This function is valid only when the DI is not assigned with function 16 (acceleration/deceleration time selection terminal 1) or 17 (acceleration/deceleration time selection terminal 2). Note 2: The valid range is from 0.00 Hz to F0-10 (maximum frequency).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-26	Switchover frequency of deceleration time 1 and deceleration time 2	0xF81A	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This function is used to switch the acceleration/deceleration time based on the running frequency range when the AC drive is running. Note 1: This function is valid only when the DI is not assigned with function 16 (acceleration/deceleration time selection terminal 1) or 17 (acceleration/deceleration time selection terminal 2). Note 2: The valid range is from 0.00 Hz to F0-10 (maximum frequency).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-27	Jog priority mode	0xF81B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: No priority 1: Jog preferred 2: OFF1 preferred							
	Description:							

	Used to select the priority level of jog and normal operation commands. 0: Priority not differentiated (respond to the command that comes first and not respond to the command that comes later) 1: Jog preferred (The jog command can interrupt normal operation.) 2: OFF1 preferred (normal operation preferred). The normal operation command can interrupt jog.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-28	Frequency detection value (FDT2 level)	0xF81C	0.00Hz~F0-10	50.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the running frequency is higher than or equal to the frequency detection value (FDT2), the DO outputs an active signal. When the running frequency is lower than the result of the frequency detection value (FDT2) minus the frequency detection hysteresis (FDT2), the DO outputs an inactive signal. Note 1: The valid range is from 0.00 Hz to F0-10 (maximum frequency).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-29	Frequency detection hysteresis (FDT2)	0xF81D	0.0%~100.0%	5.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The frequency detection hysteresis value (FDT2) is the result of F8-28 x F8-29. When the running frequency is higher than or equal to F8-28, the DO outputs an active signal. When the running frequency is lower than a specific value (F8-28 - F8-28 x F8-29), the DO outputs an inactive signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-30	Frequency reach detection value 1	0xF81E	0.00Hz~F0-10	50.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the operating frequency of the drive is within the range of F8-30±F8-31, DO terminal outputs an active signal. Note 1: This range includes the maximum and minimum values, that is, (F8-30-F8-31 x F0-10) ⩽ operating frequency ⩽ (F8-30+F8-31 x F0-10).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-31	Frequency reach detection range 1	0xF81F	0.1%~100.0%	0.1%	Unsigned 16 bit	Real time changes	General user	Effective in real

								time
	Description: When the operating frequency of the drive is within the range of F8-30±F8-31, DO terminal outputs an active signal. Note 1: The max. frequency (F0-10) is used as the base of percentage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-32	Frequency reach detection value 2	0xF820	0.00Hz~F0-10	50.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the operating frequency of the drive is within the range of F8-32±F8-33, the DO terminal outputs an active signal. Note 1: This range includes the maximum and minimum values, that is, (F8-32-F8-33 x F0-10) ≤ operating frequency ≤ (F8-32+F8-33 x F0-10).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-33	Frequency reach detection range 2	0xF821	0.1%~100.0%	0.1%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the operating frequency of the drive is within the range of F8-32±F8-33, the DO terminal outputs an active signal. Note 1: The max. frequency (F0-10) is used as the base of percentage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-34	Zero current detection level	0xF822	0.0%~300.0%	5.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the output current of the AC drive is lower than or equal to F8-34 (zero current detection level) for a period longer than the time defined by F8-35 (zero current detection delay), the DO terminal outputs an active signal.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-35	Zero current detection delay	0xF823	0.01s~600.00s	0.10s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	When the output current of the AC drive is lower than or equal to F8-34 (zero current detection level) for a period longer than the time defined by F8-35 (zero current detection delay), the DO terminal outputs an active signal.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-36	Output overcurrent threshold	0xF824	0.0%~300.0%	200.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the output current of the AC drive remains above the output current overlimit threshold (F8-36) for a period longer than the value of F8-37 (output current overlimit detection delay), the DO outputs an active signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-37	Output overcurrent detection delay	0xF825	0.00s~600.00s	0.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the output current of the AC drive remains above the output current overlimit threshold (F8-36) for a period longer than the value of F8-37 (output current overlimit detection delay), the DO outputs an active signal. Note: The DO function 36 represents "Output current limit violated".							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-38	Detection level of current 1	0xF826	0.0%~300.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the output current of the AC drive is within the range of (F8-38±F8-39) x Rated motor current, the DO terminal outputs an active signal. Note: The DO function 28 represents "current 1 reached".							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-39	Detection width of current 1	0xF827	0.0%~300.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the output current of the AC drive is within the range of (F8-38±F8-39) x Rated motor current, the DO terminal outputs an active signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-40	Detection level of current 2	0xF828	0.0%~300.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the output current of the AC drive is within the range of (F8-40±F8-41) x Rated motor current, the DO terminal outputs an active signal. Note 1: The DO function 29 represents "current 2 reached".							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-41	Detection width of current 2	0xF829	0.0%~300.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the output current of the AC drive is within the range of (F8-40±F8-41) x Rated motor current, the DO terminal outputs an active signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-42	Timing function	0xF82A	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: This parameter is used to enable timed operation of the drive. If F8-42 is set to 1, the AC drive starts timing at startup. When the set timing duration is reached, the AC drive stops automatically and meanwhile the corresponding multi-function DO outputs ON signal. The timing duration is set in F8-43 and F8-44, in unit of min. The AC drive starts timing from 0 each time it starts up and the remaining timing duration can be viewed in U0-20. Note: The DO function 30 represents "Timed operation reached".							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-43	Timing duration source	0xF82B	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real

								time
	Value: 0: F8-44 1: AI1 2: AI2 3: AI3 0: F-connector							
	Description: Used to set the source of timed operation. When other input sources are selected. The input range 100.0% corresponds to the setpoint of F8-44. If AI1 is selected, 10 V corresponds to the setpoint of F8-44.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-44	Timing duration	0xF82C	0.0min~6500.0min	0.0min	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the duration of timed operation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-45	AI1 input voltage lower limit	0xF82D	0.00V~F8-46	3.10V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: If AI1 input is larger than F8-46 or smaller than F8-45, digital output terminal set for function 31 becomes on.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-46	AI1 input voltage upper limit	0xF82E	F8-45~10.00V	6.80V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: If AI1 input is larger than F8-46 or smaller than F8-45, digital output terminal set for function 31 becomes on.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-47	IGBT temperature reach (threshold)	0xF82F	0°C~100°C	75°C	Unsigned 16 bit	Real time changes	General user	Effective in real time

	Description: When the heatsink temperature of the AC drive reaches the value of this parameter, the corresponding DO becomes ON, indicating that the module temperature reaches the threshold.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-48	Cooling fan control	0xF830	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Keep working during AC drive running 1: Always working 2: Reserved							
	Description: It is used to set the working mode of the cooling fan. If this parameter is set to 0, the fan works when the AC drive is in running state. When the AC drive stops, the cooling fan works if the heatsink temperature is higher than 40C, and stops working if the heatsink temperature is lower than 40C. If this parameter is set to 1, the cooling fan keeps working after power-on.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-49	Wakeup frequency	0xF831	F8-51~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: In hibernation state, when the frequency reference is greater than or equal to F8-49 (wakeup frequency) and the current running command is valid, the AC drive starts directly after the delay defined by F8-50 (wakeup delay) elapses.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-50	Wakeup delay	0xF832	0.0s~6500.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: In hibernation state, when the frequency reference is greater than or equal to F8-49 (wakeup frequency) and the current running command is valid, the AC drive starts directly after the delay defined by F8-50 (wakeup delay) elapses.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F8-51	Hibernation frequency	0xF833	0.00Hz~F8-49	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the frequency reference is lower than or equal to F8-51 (hibernation frequency) during running, the AC drive enters the hibernation state and stops after the time defined by F8-52 (hibernation delay) elapses.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-52	Hibernation delay	0xF834	0.0s~6500.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the frequency reference is lower than or equal to F8-51 (hibernation frequency) during running, the AC drive enters the hibernation state and stops after the time defined by F8-52 (hibernation delay) elapses.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-53	Current running duration threshold	0xF835	0.0min~6500.0min	0.0min	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: If the current running time reaches the value set in F8-53, the corresponding DO outputs ON signal, indicating that the current running time is reached. Note: DO function 40							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-54	Output power correction coefficient	0xF836	0.0%~200.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the output power (U0-05) is not equal to expected value, perform linear correction on the output power via this parameter.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-55	Deceleration time for quick stop	0xF837	0.0s~6500.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time

	Description: This parameter defines the deceleration time for quick stop.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-56	Real-time target speed source	0xF838	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: RFG output (default)
1: AI1
2: AI2
3: AI3
4: Pulse reference
5: Communication
6: Multi-reference
7: Motor-driven potentiometer
8: PID
0: F-connector

Description:

Used to set the real-time target speed source.

0: RFG output

The final output speed after RFG calculation is used as the real-time target speed.

1: AI1

The real-time target speed is input with the current or voltage signal through AI1 terminal based on the preset AI curve.

2: AI2

The real-time target speed is input with the current or voltage signal through AI2 terminal based on the preset AI curve.

3: AI3

The real-time target speed is input with the current or voltage signal through AI3 terminal based on the preset AI curve.

4: Pulse setting

The real-time target speed is set through DI5.

5: Communication setting

The real-time target speed is set through communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode applies to remote control or centralized control of multiple devices.

6: Multi-reference

In the multi-reference mode, different combinations of DI states correspond to different frequency references. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC.

7: Motorized potentiometer

The real-time target speed is set by the motorized potentiometer module output (FB-20 to FB-39).

8: PID

The real-time target speed is set through PID output.

Others: F connector

The real-time target speed is set through the connector.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F8-57	Under voltage percentage for storage upon undervoltage	0xF839	70%~120%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the percentage of the voltage below the undervoltage threshold at which storage upon undervoltage is performed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-58	Number of EEPROM operation times per unit of time	0xF83A	0~100	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to protect EEPROM components to prolong its service life. When the parameter setpoint is not 0 and the repeated EEPROM operation times exceeds the setpoint of F8-58, E21.4 will be reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-59	DI force function	0xF83B	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: The DI functions of group F4 are not enforced (you need to set the corresponding function connection parameter to 2 to activate the DI function). 1: The DI functions of group F4 are enforced.							
	Description: Used to set the forced priority of DI function. 0: Non-forced DI function in group F4 1: Forced DI function priority in group F4							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-60	Main status word 1	0xF83C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Invalid 1: Set to 1 0: B-connector							

	Description: Used to set whether the bit of main status word 1 set by the user is active. 0 indicates "inactive" and 1 indicates "active". "Others" indicates other connectors.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-61	Main status word 2	0xF83D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Invalid 1: Set to 1 0: B-connector							
	Description: Used to set whether the bit of main status word 2 set by the user is active. 0 indicates "inactive" and 1 indicates "active". "Others" indicates other connectors.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-62	Target speed reach hysteresis	0xF83E	0.0%~600.0%	3.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed in within target speed±F8-62 value for the period set by F8-63, the multi-function DO outputs "target speed reached" ON signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-63	Target speed reach time	0xF83F	0.00s~100.00s	3.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed in within target speed±F8-62 value for the period set by F8-63, the multi-function DO outputs "target speed reached" ON signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-64	Speed comparison reach threshold 1	0xF840	0.0%~600.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real

								time
	Description: When the motor speed (absolute value) during normal operation exceeds the speed set by F8-64 and F8-64 is not 0 and such status lasts for the time defined by F8-66, the multi-function DO outputs "speed comparison reach 1" ON signal. When any of the following conditions are met, the multi-function digital DO outputs the "speed comparison reached" OFF signal: 1. The speed comparison threshold set by F8-64 is 0. 2. The motor speed is 0. 3. The operation direction is opposite to the previous direction. 4: F8-64＞F8-65 and the absolute value of motor speed is lower than |F8-64-F8-65|.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-65	Speed comparison reach hysteresis 1	0xF841	0.0%~600.0%	3.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed (absolute value) during normal operation exceeds the speed set by F8-64 and F8-64 is not 0 and such status lasts for the time defined by F8-66, the multi-function DO outputs "speed comparison reach 1" ON signal. When any of the following conditions are met, the multi-function digital DO outputs the "speed comparison reached" OFF signal: 1. The speed comparison threshold set by F8-64 is 0. 2. The motor speed is 0. 3. The operation direction is opposite to the previous direction. 4: F8-64＞F8-65 and the absolute value of motor speed is lower than |F8-64-F8-65|.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-66	Speed comparison reach time 1	0xF842	0.00s~100.00s	3.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed (absolute value) during normal operation exceeds the speed set by F8-64 and F8-64 is not 0 and such status lasts for the time defined by F8-66, the multi-function DO outputs "speed comparison reach 1" ON signal. When any of the following conditions are met, the multi-function digital DO outputs the "speed comparison reached" OFF signal: 1. The speed comparison threshold set by F8-64 is 0. 2. The motor speed is 0. 3. The operation direction is opposite to the previous direction. 4: F8-64＞F8-65 and the absolute value of motor speed is lower than |F8-64-F8-65|.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-67	Speed comparison reach threshold 2	0xF843	0.0%~600.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed (absolute value) during normal operation exceeds the speed set by F8-67 and F8-67 is not 0 and such status lasts for the time defined by F8-69, the multi-function DO outputs "speed comparison reach 1" ON signal. When any of the following conditions are met, the multi-function digital DO outputs the "speed comparison reached" OFF signal: 1. The speed comparison threshold set by F8-67 is 0. 2. The motor speed is 0. 3. The operation direction is opposite to the previous direction. 4: F8-67＞F8-68 and the absolute value of motor speed is lower than |F8-67-F8-68|.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-68	Speed comparison reach hysteresis 2	0xF844	0.0%~600.0%	3.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed (absolute value) during normal operation exceeds the speed set by F8-67 and F8-67 is not 0 and such status lasts for the time defined by F8-69, the multi-function DO outputs "speed comparison reach 1" ON signal. When any of the following conditions are met, the multi-function digital DO outputs the "speed comparison reached" OFF signal: 1. The speed comparison threshold set by F8-67 is 0. 2. The motor speed is 0. 3. The operation direction is opposite to the previous direction. 4: F8-67＞F8-68 and the absolute value of motor speed is lower than |F8-67-F8-68|.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-69	Speed comparison reach time 2	0xF845	0.00s~100.00s	3.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed (absolute value) during normal operation exceeds the speed set by F8-67 and F8-67 is not 0 and such status lasts for the time defined by F8-69, the multi-function DO outputs "speed comparison reach 1" ON signal. When any of the following conditions are met, the multi-function digital DO outputs the "speed comparison reached" OFF signal:							

	1. The speed comparison threshold set by F8-67 is 0. 2. The motor speed is 0. 3. The operation direction is opposite to the previous direction. 4: F8-67＞F8-68 and the absolute value of motor speed is lower than |F8-67-F8-68|.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-70	Output current correction coefficient	0xF846	80.0%~120.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to correct the output current display.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-71	Output current filter	0xF847	1~65535	128	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the average filter coefficient of output current, which acts on U0-04.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-72	Skip frequency 3	0xF848	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The skip frequency enables the AC drive to avoid any frequency at which a mechanical resonance may occur. This parameter defines the third skip frequency. If it is set to 0, the third skip frequency is canceled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-73	Skip frequency 4	0xF849	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The skip frequency enables the AC drive to avoid any frequency at which a mechanical resonance may occur. This parameter defines the fourth skip frequency. If it is set to 0, the fourth skip frequency is canceled.							
Param	Name	Communication	Range	Default	Data	Change	User	Effective

		address			type	mode	authority	mode
F8-74	Power-on duration threshold (second)	0xF84A	0s~3599s	0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: If the accumulative power-on time reaches the value set by F8-16 and F8-74, and the set power-on time is not zero, the multi-function DO terminal outputs ON signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-75	Running duration threshold (second)	0xF84B	0s~3599s	0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the accumulative running time threshold of the AC drive. If the accumulative operating time reaches the value set by F8-17 and F8-75, and the set operating time is not zero, the multi-function DO terminal outputs ON signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-76	CIA402 related value selection	0xF84C	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Acceleration/Deceleration time selection	0: System acceleration/deceleration time 1: CiA402 acceleration/deceleration time
Tens	Frequency lower/upper limit selection	0: CiA402 not written to F0-12/14 1: CiA402 written to F0-12/14

Description:

This parameter selects the acceleration/deceleration time and frequency upper/lower limit when CIA402-VL mode applies. When the ones is set to 0, the acceleration/deceleration time set by the system applies. When the ones is set to 1, the acceleration/Deceleration time set by CIA402 communication address is used.

When the tens is set to 0, the CIA402 process does not change frequency upper and lower limits, and the frequency lower and upper limits of the system prevail. When the tens is set to 1, the CIA402 changes the frequency upper/lower limit.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F8-77	Hardware limit selection	0xF84D	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real

								time
	Value： 0： Disabled 1： Enabled							
	Description： Used to set hardware limit. Note: This parameter is used to enable DI functions 64 and 65.							

F9 Fault and Protection

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-00	Motor overload protection	0xF900	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value： 0： Disabled 1： Enabled							
	Description： Used to select whether to enable the motor overload protection function. The drive judges whether the motor is overloaded according to the inverse time-lag curve. When the motor overload is detected, the AC drive will report an overload fault. 0: Disabled The motor overload protection function is disabled. When this parameter is set to 0, it is recommended to install a thermal relay before the motor for protection. 1: Enabled The motor overload protection function is enabled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-01	Motor overload protection gain	0xF901	0.20~10.00	1.00	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： It is used to adjust the actual overload fault report time of the AC drive when motor overload occurs. The higher the value of this parameter, the longer the overload time. Note: See the description in the Motor Overload Protection section in the Function Guide.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-02	Motor overload determine coefficient	0xF902	50%~100%	80%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The value of motor overload determine coefficient is calculated according to the percentage of time when the motor runs continuously at a certain overload point without reporting overload determine. This function is used to give a determine signal to the control system through DO before motor overload protection. This signal is used to determine how long in advance to send the determine signal before the motor overload protection is triggered. A larger coefficient means later transmission of the determine signal. When the accumulative output current of the AC drive is higher than the value of the overload time (value Y of motor overload protection inverse time-lag curve) multiplied by F9-02 (motor overload alarm coefficient), the multi-functional DO of the AC drive outputs a motor overload alarm signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-03	V/f overvoltage stall suppression gain	0xF903	1~500	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing F9-03 will improve the control effect of the bus voltage but cause fluctuations in the output frequency. If the output frequency fluctuates greatly, you can decrease F9-03 as appropriate. F9-03 functions the same as F3-24.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-04	V/f overvoltage stall suppression protection voltage	0xF904	330.0V~800.0V	770.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the bus voltage reaches the setpoint, the drive starts overvoltage stall protection. In this case, the function of F9-04 is the same as that of F3-22.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-06	Reset mode upon short circuit to ground	0xF906	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value:							

0： Reset allowed only after power-off

1： Reset allowed

Description：

When a short circuit to ground fault is reported, select whether reset is allowed.

0: Reset is not allowed, reset upon power-off allowed only

No automatic or manual reset is allowed. Fault can be reset through restart only.

1: Reset allowed

When a fault is reported, reset is allowed without restart.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-07	Short-to-ground detection	0xF907	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value：

Bit	Name	Value
Ones	Short-to-ground detection upon power-on	0: Disabled 1: Enabled
Tens	Short-to-ground detection before running	0: Disabled 1: Enabled

Description：

Ones: Enabled upon power-on

Tens: Enabled before start (After the flying start is enabled (F6-00 = 1), auto-inspection before start will not be executed forcibly)

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-08	Braking unit applied voltage	0xF908	330.0V~800.0V	760.0V	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Description：

Used to adjust the energy consumption efficiency of the braking resistor. When the motor is in the power generation state, the voltage of the DC bus in the AC drive will rise. The braking unit can be used to control the voltage of the DC bus to consume the regenerative electric energy generated by the motor through the braking resistor or send back the regenerative electric energy to the power supply.

Application Scenarios

In the V/f control mode, if the actual deceleration time of the motor is far longer than the set deceleration time, the motor decelerates too slowly. To enable the motor to decelerate quickly by enhancing the energy consumption of the braking resistor, you can set F9-08 (Braking unit applied voltage) to 690 V if the following conditions are met: The AC drive is equipped with a braking resistor or an energy feedback unit; The input voltage of the AC drive is 360 V to 420 V.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-09	Auto reset attempts	0xF909	0~100	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the automatic fault reset times of the drive. If the number of reset times exceed the value of this parameter, the AC drive remains in the faulty state.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-10	Relay action during auto reset	0xF90A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Used to determine whether the fault output function of the DO takes effect during the automatic fault reset of the AC drive. The fault output function of the DO terminal is defined by F5-04 = 2. 0: The fault relay does not act when the auto reset is not active. 1: The fault relay acts when the action is reset automatically.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-11	Auto reset interval	0xF90B	0.1s~600.0s	1.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the waiting time between occurrence of the alarm and automatic fault reset.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-12	Protective functions	0xF90C	Refer to "Value"	11	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Input phase loss protection	0: Disabled 1: Enabled when both software and hardware input phase loss conditions are met 2: Enabled when software input phase loss conditions are met 3: Enabled when hardware input phase loss conditions are met
Tens	Contactor close protection	0: Disabled 1: Enable
Hundreds	T13 power supply unit fault protection	0: Disable 1: Enable

Description:

This function parameter determines whether to perform input phase loss or contactor pickup protection through the ones and tens position.

After the input phase loss protection function is enabled, if the three-phase input power supply, driver board, lightning protection board, main control board, or rectifier bridge is abnormal, the AC drive will report E012.0 (input phase loss).

Ones: Input phase loss protection

0: Input phase loss inhibited

Input phase loss is not detected.

1: Protection triggered when software and hardware input phase loss conditions are met

Input phase loss protection is triggered only when the hardware and software detections meet the fault conditions.

2: Protection triggered when software input phase loss conditions are met

Input phase loss protection is triggered when software detection reaches the fault condition.

3: Protection triggered when hardware input phase

Tens: Contactor close protection selected for models of 450 kW and below; fan fault selected for models of 500 kW and above

0: Disable contactor close protection

1: Enable contactor close protection

Hundreds: T13 rectifier fault protection

0: Disabled

1: Allowed

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-13	Output phase loss protection	0xF90D	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Output phase loss protection during running	0: Disabled 1: Enabled

Tens	Output phase loss protection before running	0: Disabled 1: Enabled	

Description:

The default value 1 indicates the output phase loss protection is enabled. Related options are described below.

Ones: Used to select whether to trigger output phase loss protection. If the setpoint 0 applies but no fault is reported upon output phase loss, the actual current is higher than that displayed on the operating panel. Use this function with caution.

0: Disable

The output phase loss protection is inhibited during operation.

1: Enable

The output phase loss protection is enabled during operation.

Tens: Output phase loss detection during operation takes about a few seconds. In low-frequency operations or applications where risks exist in start with phase loss, this function can be used to detect phase loss fault upon start. However, in applications where short start time is required, do not use this function.

0: Disable

The output phase loss protection is inhibited before operation.

1: Enable

The output phase loss protection is enabled before operation.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-14	1st fault type	0xF90E	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time

Description:

Records the fault code of the first fault. The host controller reads the communication address to obtain the fault code of the AC drive and triggers the AC drive to report the fault.

Note 1: The fault code can be viewed through the operating panel.

Note 2: For the meaning of the fault code, see the troubleshooting section in this product manual.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-15	2nd fault type	0xF90F	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time

Description:

Indicates the fault code of the second fault. The host controller reads the communication address to obtain the fault code of the AC drive and triggers the AC drive to report the fault.

Note 1: The fault code can be viewed through the operating panel.

Note 2: For the meaning of the fault code, see the troubleshooting section in this product manual.

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
F9-16	3rd (latest) fault type	0xF910	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the fault code of the third (latest) fault. The host controller reads the communication address to obtain the fault code of the AC drive and triggers the AC drive to report the fault. Note 1: The fault code can be viewed through the operating panel. Note 2: For the meaning of the fault code, see the troubleshooting section in this product manual.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-17	Frequency upon the 3rd (latest) fault	0xF911	-327.68Hz~ +327.67Hz	0.00Hz	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Indicates the frequency of the AC drive upon the latest fault.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-18	Current upon the 3rd (latest) fault	0xF912	-327.68A~+ 327.67A	0.00A	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Indicates the current of the AC drive upon the latest fault.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-19	Bus voltage upon the 3rd (latest) fault	0xF913	0.0V~6553.5V	0.0V	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the bus voltage of the AC drive upon the latest fault.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-20	Input terminal state upon the 3rd (latest) fault	0xF914	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time

	Description: Indicates the DI state of the AC drive upon the latest fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-21	Output terminal state upon the 3rd (latest) fault	0xF915	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the DO state of the AC drive upon the latest fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-22	AC drive state upon the 3rd (latest) fault	0xF916	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the state of the AC drive upon the latest fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-23	Power-on duration upon the 3rd (latest) fault	0xF917	0min~65535min	0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the power-on time of the AC drive upon the latest fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-24	Running duration upon the 3rd (latest) fault	0xF918	0.0min~6553.5min	0.0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the running time of the AC drive upon the latest fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-25	Status word A upon the 3rd (latest) fault	0xF919	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real

								time
	Description: Status word A upon the 3rd (latest) fault							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-26	Status word B upon the 3rd (latest) fault	0xF91A	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Status word B upon the 3rd (latest) fault							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-27	Frequency upon the 2nd fault	0xF91B	-327.68Hz~ +327.67Hz	0.00Hz	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Indicates the frequency of the AC drive upon the second fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-28	Current upon the 2nd fault	0xF91C	-327.68A~+ 327.67A	0.00A	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Indicates the current of the AC drive upon the second fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-29	Bus voltage upon the 2nd fault	0xF91D	0.0V~6553.5V	0.0V	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the bus voltage of the AC drive upon the second fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-30	Input terminal state	0xF91E	0x0~0xFFFF	0x0	Unsigned	Cannot be	General	Effective

	upon the 2nd fault				16 bit	changed	user	in real time
	Description: Indicates the DI state of the AC drive upon the second fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-31	Output terminal state upon the 2nd fault	0xF91F	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the DO state of the AC drive upon the second fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-32	AC drive state upon the 2nd fault	0xF920	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the state of the AC drive upon the second fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-33	Power-on duration upon the 2nd fault	0xF921	0min~65535min	0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the power-on time of the AC drive upon the second fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-34	Running duration upon the 2nd fault	0xF922	0.0min~6553.5min	0.0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: This parameter shows the operation time of the AC drive upon the second fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F9-35	Status word A upon the 2nd fault	0xF923	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Status word A upon the 2nd fault							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-36	Status word B upon the 2nd fault	0xF924	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Status word B upon the 2nd fault							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-37	Frequency upon the 1st fault	0xF925	-327.68Hz~ +327.67Hz	0.00Hz	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Indicates the frequency of the AC drive upon the first fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-38	Current upon the 1st fault	0xF926	-327.68A~+ 327.67A	0.00A	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Indicates the current of the AC drive upon the first fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-39	Bus voltage upon the 1st fault	0xF927	0.0V~6553.5V	0.0V	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the bus voltage of the AC drive upon the first fault.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
F9-40	Input terminal state upon the 1st fault	0xF928	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the DI state of the AC drive upon the first fault.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-41	Output terminal state upon the 1st fault	0xF929	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the DO state of the AC drive upon the first fault.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-42	AC drive state upon the 1st fault	0xF92A	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the state of the AC drive upon the first fault.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-43	Power-on duration upon the 1st fault	0xF92B	0min~65535min	0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the power-on time of the AC drive upon the first fault.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-44	Running duration upon the 1st fault	0xF92C	0.0min~6553.5min	0.0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: This parameter shows the operation time of the AC drive upon the first fault.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-45	Status word A upon the 1st fault	0xF92D	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Status word A upon the 1st fault							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-46	Status word B upon the 1st fault	0xF92E	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Status word B upon the 1st fault							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-47	Fault protection action selection 1	0xF92F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Motor overload (E011.x)	0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore
Tens	Input phase loss (E012.x)	0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore
Hundreds	Output phase loss (E013.x)	0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Limit the power 4: Limit the current

Thousands	External fault (E015.x)	0: Coast to stop 1: Stop according to the stop mode 2: Continue operating 3: Limit the power 4: Limit the current
Ten thousands	Reserved	

Description:

The protective actions are set through the ones, tens, hundreds, thousands, and ten thousands of this parameter.

0: Coast to stop

The drive coasts to stop.

1: Stop according to the stop mode

The drive stops according to the specified stop mode.

2: Continue to run

The drive continues to run.

3: Limit the power

The power of the drive is limited.

4: Limit the current

The current of the drive is limited.

5: Ignored

The fault type is ignored by the drive.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-48	Fault protection action selection 2	0xF930	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Encoder/PG card error (E020.x)	0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore
Tens	Parameter read-write error (E021.x)	0: Coast to stop 1: Stop according to the stop mode
Hundreds	PG card error (E024.x)	0: Coast to stop
Thousands	Rectifier fault (E025.x)	0: Coast to stop

Ten thousands	Operating time reached (E026.x)	0: Coast to stop 1: Stop according to the 2: Continue to run 3: Limit the power 4: Limit the current	

Description:

The protective actions are set through the ones, tens, hundreds, thousands, and ten thousands of this parameter.

0: Coast to stop

The drive coasts to stop.

1: Stop according to the stop mode

The drive stops according to the specified stop mode.

2: Continue to run

The drive continues to run.

3: Limit the power

The power of the drive is limited.

4: Limit the current

The current of the drive is limited.

5: Ignored

The fault type is ignored by the drive.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-49	Fault protection action selection 3	0xF931	Refer to "Value"	20	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones position	User-defined fault 1 (E027.x)	0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Limit the power 4: Limit the current
Tens	User-defined fault 2 (E028.x)	0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Limit the power 4: Limit the current

Hundreds	Power-on time reached (E029.x)	0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Limit the power 4: Limit the current
Thousands	Load loss (E030.x)	0: Coast to stop 1: Decelerate to stop 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore
Ten thousands	PID feedback lost during running (E031.x)	0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Limit the power 4: Limit the current

Description:

The protective actions are set through the ones, tens, hundreds, thousands, and ten thousands of this parameter.

0: Coast to stop

The drive coasts to stop.

1: Stop according to the stop mode

The drive stops according to the specified stop mode.

2: Continue to run

The drive continues to run.

3: Limit the power

The power of the drive is limited.

4: Limit the current

The current of the drive is limited.

5: Ignored

The fault type is ignored by the drive.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-50	Fault protection action selection 4	0xF932	Refer to "Value"	2000	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value

Ones	Excessive speed deviation (E042.x)	0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore
Tens	Motor overspeed (E043.x)	0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore
Hundreds	Magnetic pole position auto-tuning error (E051.x)	0: Coast to stop
Thousands	Low liquid level fault (E066.x)	0: Coast to stop 1: Stop according to the stop mode 2: Continue operating 3: Limit the power 4: Limit the current 5: Ignore
Ten thousands	Internal fan fault (E65.x)	0: Coast to stop 1: Stop according to the 2: Continue to run 3: Limit the power 4: Limit the current

Description:

The protective actions are set through the ones, tens, hundreds, thousands, and ten thousands of this parameter.

0: Coast to stop

The drive coasts to stop.

1: Stop according to the stop mode

The drive stops according to the specified stop mode.

2: Continue to run

The drive continues to run.

3: Limit the power

The power of the drive is limited.

4: Limit the current

The current of the drive is limited.

5: Ignored

The fault type is ignored by the drive.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F9-51	Fault protection action selection 5	0xF933	Refer to "Value"	10111	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Modbus timeout (E160.x)	0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore
Tens	CANopen fault (E161.x)	0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore
Hundreds	CANlink fault (E162.x)	0: Coast to stop 1: Stop according to the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore
Thousands	Reserved	
Ten thousands	Expansion card fault (E164.x)	0: Coast to stop 1: Stop according to the 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore

Description:

The protective actions are set through the ones, tens, hundreds, thousands, and ten thousands of this parameter.

0: Coast to stop

The drive coasts to stop.

1: Stop according to the stop mode

The drive stops according to the specified stop mode.

2: Continue to run

The drive continues to run.

3: Limit the power

The power of the drive is limited.

4: Limit the current

	The current of the drive is limited. 5: Ignored The fault type is ignored by the drive.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-54	Frequency for continuing to run upon fault	0xF936	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Operating at current frequency 1: Operating at the set frequency 2: Operating at the frequency upper limit 3: Operating at the frequency lower limit 4: Operating at backup frequency upon fault (F9-55) 5: Operating at current frequency after filtering							
	Description: This parameter is used to select the frequency when the AC drive is faulty. If a fault occurs during the running of the AC drive and the fault protection action is set to "Continue to run", the AC drive displays A** and continues to run at the frequency set by F9-54.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-55	Alternative frequency upon exception	0xF937	0.0%~100.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is used to set the backup frequency of the AC drive upon fault. If a fault occurs during the operation of the AC drive and the fault protection action is set to "run at the backup frequency" (F9-54 is set to 4), the AC drive displays A** and continues to run at the backup frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-56	AI3 temperature mode - motor temperature sensor type	0xF938	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: No temperature sensor (AI channel used as analog input) 1: PT100 2: PT1000							
	Description:							

	A motor temperature sensor needs to be connected to the AI3 and PGND terminals on the MD38IO1 expansion card. The AC drive supports PT100 and PT1000 motor temperature sensors. Set the sensor type properly. Set the DIP switch on the MD38IO1 expansion card. For details, see section MD38IO1 expansion card in the AC drive expansion card selection guide. You can view the motor temperature in U0-34.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-57	AI3 temperature mode - motor overtemperature protection threshold	0xF939	F9-58~200°C	110°C	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is used to set the motor overtemperature protection threshold. When the motor temperature exceeds the value of F9-57 (motor overtemperature protection threshold), the AC drive generates the motor overtemperature alarm (E045.1).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-58	AI3 temperature mode - motor overtemperature alarm threshold	0xF93A	0°C~F9-57	90°C	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor temperature exceeds the motor overtemperature alarm threshold (F9-58), the DO allocated with function 39 (Motor overtemperature alarm) outputs a valid signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-59	Power dip ride-through	0xF93B	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Invalid 1: Decelerate (bus voltage constant control) 2: Decelerate to stop 3: Voltage dip suppression							
	Description: The function enables the AC drive to keep running upon an instantaneous power failure. When an instantaneous power failure occurs, the AC drive keeps the motor in the power generation state to keep the bus voltage at a value around the							

	threshold for enabling power dip ride-through. This prevents the AC drive from stopping due to undervoltage. 0: Disabled The power dip ride through function is disabled. 1: Decelerate, bus voltage constant control When power failure occurs, the bus voltage stays at a value around the "voltage threshold for enabling power dip ride-through". In this mode, when the power grid recovers from the failure, the AC drive restores the output frequency to the target output frequency based on the acceleration time. 2: Decelerate to stop When a power loss occurs, the AC drive decelerates to stop. In this mode, if the drive does not decelerate to 0 and the power supply recovers, the drive continues running. 3: Voltage dip suppression In this mode, the AC drive will not stop due to undervoltage caused by voltage dip. The voltage dip suppression time is set by F9-66.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-60	Voltage threshold for disabling power dip ride-through	0xF93C	80%~100%	85%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter defines the voltage threshold for disabling power dip ride-through. 100% corresponds to 540 V. This value is slightly lower than the bus voltage before a power failure. Upon a power failure, the bus voltage is maintained at about F9-62 (threshold for enabling power dip ride-through). When the power supply recovers, the bus voltage rises from F9-62 (threshold for enabling power dip ride-through) to F9-60 (threshold for recovery from power dip ride-through). During this period, the output frequency of the AC drive keeps decreasing until the bus voltage reaches F9-60 (threshold for recovery from power dip ride-through).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-61	Delay of voltage recovery from power dip	0xF93D	0.0s~100.0s	0.5s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter defines the time required for the bus voltage to rise from F9-60 (voltage threshold for disabling power dip ride-through) to the voltage before power failure.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-62	Voltage threshold for enabling power dip ride-through	0xF93E	60%~100%	80%	Unsigned 16 bit	Shutdown change	General user	Effective in real time

	Description: This parameter defines the voltage level at which the bus voltage is maintained upon power failure. Upon power failure, the bus voltage is maintained around F9-62 (voltage threshold for enabling power dip ride-through).

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-63	Protection upon load loss	0xF93F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: If load loss protection is enabled, when output current of the AC drive falls below detection level (F9-64) for longer than time set in F9-65, the AC drive initiates load loss protection action (the action can be selected from F9-49 and the default is coast-to-stop.) Once the load recovers during protection, the drive will restore to run at the set frequency. 0: Invalid load loss protection detection is invalid. This detection will not be performed 1: Active Load loss protection detection is active.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-64	Load loss detection level	0xF940	0.0%~100.0%	10.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: If load loss protection is enabled, when output current of the AC drive falls below detection level (F9-64) for longer than time set in F9-65, the AC drive initiates load loss protection action (the action can be selected from F9-49 and the default is coast-to-stop.) Once the load recovers during protection, the drive will restore to run at the set frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-65	Load loss detection time	0xF941	0.0s~60.0s	1.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: If load loss protection is enabled, when output current of the AC drive falls below detection level (F9-64) for longer than							

	time set in F9-65, the AC drive initiates load loss protection action (the action can be selected from F9-49 and the default is coast-to-stop.) Once the load recovers during protection, the drive will restore to run at the set frequency.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-67	Overspeed detection level	0xF943	0.0%~50.0%	20.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: During overspeed protection, when the detected motor speed exceeds F0-10 (Maximum frequency) for a percentage higher than F9-67 (Overspeed detection level) and for longer than the time set by F9-68 (Overspeed detection time), the AC drive reports a motor overspeed fault (E043.1) and acts as selected by F9-50 (Fault protection action). When F9-68 (Overspeed detection time) is set to 0.0s, the overspeed detection function is disabled. The overspeed protection is valid only in the FVC mode (F0-01 = 1).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-68	Overspeed detection time	0xF944	0.0s~60.0s	1.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: During overspeed protection, when the detected motor speed exceeds F0-10 (Maximum frequency) for a percentage higher than F9-67 (Overspeed detection level) and for longer than the time set by F9-68 (Overspeed detection time), the AC drive reports a motor overspeed fault (E043.1) and acts as selected by F9-50 (Fault protection action). When F9-68 (Overspeed detection time) is set to 0.0s, the overspeed detection function is disabled. The overspeed protection is valid only in the FVC mode (F0-01 = 1).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-69	Detection level of excessive speed deviation	0xF945	0.0%~50.0%	20.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed detected is higher than the set frequency and the difference is higher than F9-69 for a period longer than the time set by F9-70, the drive reports excessive speed deviation fault (E042.1) and acts accordingly as defined by F9-50. If F9-70 is set to 0.0s, the excessive speed deviation detection is disabled. This function is valid only when the AC drive works in SVC/FVC mode.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
F9-70	Detection time of excessive speed deviation	0xF946	0.0s~60.0s	5.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed detected is higher than the set frequency and the difference is higher than F9-69 for a period longer than the time set by F9-70, the drive reports excessive speed deviation fault (E042.1) and acts accordingly as defined by F9-50. If F9-70 is set to 0.0s, the excessive speed deviation detection is disabled. This function is valid only when the AC drive works in SVC/FVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-71	Power dip ride-through gain Kp	0xF947	1~100	40	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is valid only in the "decelerate, bus voltage constant control" (F9-59 is set to 1) mode. If undervoltage is likely to occur during power dip ride-through, increase the values of F9-71 and F9-72.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-72	Power dip ride-through integral coefficient Ki	0xF948	1~100	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is valid only when F9-59 is set to 2. If undervoltage is likely to occur during power dip ride-through, increase the values of F9-71 and F9-72.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-73	Deceleration time of power dip ride-through	0xF949	0.0s~300.0s	20.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is valid only for the decelerate to stop mode (F9-59 = 2). When the bus voltage is lower than the value of F9-62, the AC drive decelerates to stop. The deceleration time is determined by this parameter instead of F0-18.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
F9-74	Voltage dip suppression time	0xF94A	0.1s~600.0s	0.5s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This function prevents AC drive stop caused by undervoltage when instantaneous power failure occurs due to voltage dip. This parameter is valid only when F9-59 is set to 3.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-75	AI2 temperature mode - motor temperature sensor type	0xF94B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: No temperature sensor (AI as analog input) 1: PT100 2: PT1000 3: KTY84-130 4: Single-core PTC130 5: Three-core PTC130 6: Single-core PTC150 7: Three-core PTC150 8: Three PT100 connected in series							
	Description: This parameter is used to select the temperature sensor type when AI2 is used for temperature input.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-76	AI2 temperature mode - motor overheat protection threshold	0xF94C	F9-77~200°C	110°C	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is used to set the overtemperature protection threshold when AI2 is used for temperature sampling.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-77	AI2 temperature mode - motor overheat determine threshold	0xF94D	0°C~F9-76	90°C	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is used to set the overtemperature alarm threshold when AI2 is used for temperature sampling.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

F9-78	AI2 temperature mode - motor temperature reach	0xF94E	0°C~100°C	75°C	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is used to set the temperature reach threshold when AI2 is used for temperature sampling.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-79	Auto reset of STO state	0xF94F	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Manual reset 1: Auto reset							
	Description: Used to enable automatic reset of STO faults. After this function is enabled, the STO resets automatically after STO1 and STO2 are recovered.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
F9-80	AI3 temperature mode - motor temperature reach	0xF950	0°C~100°C	75°C	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is used to set the temperature reach threshold when AI3 is used for temperature sampling.							

FA Process Control PID Function

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-00	PID reference source	0xFA00	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Parameter input (FA-01) 1: AI1 input 2: AI2 input 4: Pulse input (DI5) 5: Communication input 6: Multi-reference input							

	3：AI3 input　　Others：F connector
	Description： This parameter specifies the reference channel of the PID target value. The PID reference is a relative value. The value 100% corresponds to 100% of the feedback signal of the controlled system. 0: PID reference (FA-01) The PID reference is set by FA-01 (PID reference value). 1: AI1 The PID reference is set by AI3 input. 2: AI2 The PID reference is set by AI2 input. 3: AI3 The PID reference is set by AI3 input. 4: Pulse reference (DI5) The PID reference is set by the pulse frequency input through the DI terminal (DI5). The frequency is calculated according to the corresponding relationship curve between the pulse frequency and running frequency. 5: Communication setting The PID reference is set through remote communication. 6: Multi-reference In the multi-reference mode, combinations of different DI terminal states correspond to different frequency references. The four multi-reference terminals can be combined to form 16 states, corresponding to 16 frequencies respectively. Note: When FA-00 is set to 6 (multi-reference), FC-51 (Source of multi-reference 0) cannot be set to 5 (PID reference). Others: F connector The parameter in float connector is used as the PID target reference value.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-01	PID reference	0xFA01	0.0%~100.0%	50.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： When FA-00 (PID reference source) is set to 0, this parameter must be set. The setpoint 100% corresponds to the maximum feedback value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-02	PID feedback source	0xFA02	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value： 0：AI1　　4：Pulse reference (DIO1)　　7：Max (|AI1|, |AI2|) 1：AI2　　5：Communication　　8：Min (|AI1|, |AI2|) 2：AI3　　6：AI1+AI2　　Others：F connector							

	3：AI1-AI2
	Description： This parameter defines the PID feedback source.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-03	PID action direction	0xFA03	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value： 0：Forward 1： Reverse 0： B-connector							
	Description： 0: Positive When the feedback value is lower than the PID reference, the output frequency of the AC drive increases. 1: Negative When the feedback value is lower than the PID reference, the output frequency of the AC drive decreases. Others: B connector Select the parameter in the bit connector to control PID direction. (The value 0 represents positive action and 1 represents negative action.)							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-04	PID reference and feedback range	0xFA04	0~65535	1000	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： This parameter is used for display of the PID reference and feedback, which are dimensionless. For example, if the parameter is set to 1000, the PID setting (0% to 100%) corresponds to the feedback value (0 to 1000) linearly.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-05	Proportional gain Kp1	0xFA05	0.0~1000.0	20.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Indicates the proportional gain Kp in PID control. The deviation reduction speed depends on the proportional coefficient Kp. A larger Kp value indicates faster deviation reduction but higher possibility of oscillation. A smaller Kp value indicates lower possibility of oscillation but slower deviation reduction.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
FA-06	Integral time Ti1	0xFA06	0.01s~10.00s	2.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the integral time Ti in PID control. It decides the integral regulating intensity. The shorter the integral time, the greater the adjustment intensity will be.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-07	Derivative time Td1	0xFA07	0.000s~10.000s	0.000s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the derivative time Td in PID control. It decides the regulating intensity of the PID regulator on the deviation change. Longer derivative time indicates greater adjustment intensity.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-08	PID cut-off frequency in reverse direction	0xFA08	0.00Hz~F0-10	2.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the frequency source is pure PID, this parameter value is the minimum PID output value. When the frequency source is main frequency + PID, FA-08 acts on the main frequency + PID and outputs the minimum frequency value after "main frequency + PID" operation. When this parameter is set to 0, the PID reverse rotation cut-off frequency is inactive.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-09	PID deviation limit	0xFA09	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the PID deviation limit. When the deviation is within the PID deviation limit, no adjustment is required. This parameter is used to ensure the accuracy and stability of the system output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-10	PID derivative limit	0xFA0A	0.00%~100.00%	0.10%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	Indicates the PID derivative output range. In PID control, the derivative operations may easily cause system oscillation. Thus, the PID derivative regulation is generally restricted to a small range.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-11	PID reference change time	0xFA0B	0.00s~650.00s	0.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the time required for the PID reference to change from 0.0% to 100.0%.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-12	PID feedback filter time	0xFA0C	0.00s~60.00s	0.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the filter time of PID feedback. The filter helps to reduce interference on the feedback but lowers the responsiveness of the process closed-loop system.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-13	PID output filter time	0xFA0D	0.00s~60.00s	0.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the filter time of PID output. The filter enhances smooth output but lowers the responsiveness of the process closed-loop							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-15	Proportional gain Kp2	0xFA0F	0.0~1000.0	20.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the proportional gain Kp in PID control. The deviation reduction speed depends on the proportional coefficient Kp. A larger Kp tends to reduce the deviation faster, but may cause system oscillation, especially at large hysteresis. A smaller Kp indicates lower possibility of oscillation but also slower deviation reduction.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-16	Integral time Ti2	0xFA10	0.01s~10.00s	2.00s	Unsigned	Real time	General	Effective in

					16 bit	changes	user	real time
	Description: This parameter defines the integral time Ti in PID control. It determines the integral adjustment intensity of the PID controller. Shorter integral time indicates greater adjustment intensity.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-17	Derivative time Td2	0xFA11	0.000s~10.000s	0.000s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the derivative time Td in PID control. It determines the deviation variation adjustment intensity of the PID controller. Longer derivative time indicates greater adjustment intensity.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-18	PID parameter switchover condition	0xFA12	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: No switchover 1: Switchover by DI 2: Automatic switchover based on deviation 3: Automatic switchover based on running frequency							
	Description: Used for switchover between two groups of PID parameters. 0: Not switched No switchover is performed. 1: Switched by DI To enable switchover through a DI terminal, assign the DI with function 43 (PID parameter switchover). If the DI is invalid, group 1 (FA-05 to FA-07) is selected. If the DI is valid, group 2 (FA-15 to FA-17) is selected. 2: Switched automatically based on deviation If the absolute value of the deviation between reference and the feedback is lower than FA-19 (PID parameter switchover deviation 1), PID selects parameter group 1. If the absolute value of the deviation between the reference and the feedback is greater than FA-20 (PID parameter switchover deviation 2), PID selects parameter group 2. When the absolute value of the deviation between the setting and feedback is between FA-19 (PID parameter switchover deviation 1) and FA-20 (PID parameter switchover deviation 2), the PID parameters are linear interpolation values of the two groups of PID parameters. 3: Switched based on operating frequency Switchover is automatically performed based on the operating frequency of the AC drive. If the ratio of current operating frequency/max. Frequency is lower than FA-19 (PID parameter switchover deviation 1), PID selects parameter group 1. If this ratio is higher than FA-20 (PID parameter switchover deviation 2), PID selects parameter group 2. When this ratio is between FA-19 (PID parameter switchover deviation 1) and FA-20 (PID parameter switchover							

	deviation 2), the PID parameters are linear interpolation values of the two sets of PID parameters.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-19	PID parameter switchover deviation 1	0xFA13	0.0%~FA-20	20.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The value 100% corresponds to the maximum deviation between the reference and feedback. The setting range is 0.0% to FA-20 (PID parameter switchover deviation 2).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-20	PID parameter switchover deviation 2	0xFA14	FA-19~100.0%	80.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The value 100% corresponds to the maximum deviation between the reference and feedback. The setting range is FA-19 (PID parameter switchover deviation 1) to 100.0%.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-21	PID initial value	0xFA15	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the AC drive starts up, the PID starts the closed-loop algorithm only after the PID output is fixed to the PID initial value (FA-21) for longer than the time set by FA-22 (hold time of PID initial value).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-22	Hold time of PID initial value	0xFA16	0.00s~650.00s	0.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the AC drive starts up, the PID starts the closed-loop algorithm only after the PID output is fixed to the PID initial value (FA-21) for longer than the time set by FA-22 (hold time of PID initial value).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-25	PID integral property	0xFA19	Refer to "Value"	10	Unsigned	Real time	General	Effective in

					16 bit	changes	user	real time

Value:

Bit	Name	Value
Ones	Integral separation	0: Disabled 1: Enabled
Tens	Whether to stop integration when the output reaches the limit	0: Continue integration 1: Stop integration

Description:

Ones: Integral separation

0: Invalid When integral pause is inactive, it remains inactive no matter whether the multi-functional DI is active.

1: Enable When the integral pause is active and the DI assigned with the PID integral pause function is active (F4-00 = 22), the PID integral operation stops. In this case, only proportional and derivative operations take effect.

Tens: Stop integral or not after reaching output limit

Defines whether to stop integral action after PID operation output reaches the maximum or minimum value. If you select to stop the integral operation (tens position set to 1), the PID integral operation stops, which may help to reduce the PID overshoot.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-26	Lower threshold of detection on feedback loss	0xFA1A	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

This parameter is used to determine whether the PID feedback is lost. When the PID feedback remains lower than the value of FA-26 (lower threshold of detection on feedback loss) for a period longer than the time set by FA-27 (PID feedback loss detection time), the AC drive reports E31.00.

The setpoint 0 indicates that detection on feedback loss is disabled.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-27	PID feedback loss detection time	0xFA1B	0.0s~20.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

Used to check whether the PID feedback is lost. If the PID feedback keeps lower than the value of FA-26 or higher than FA-29 after the time defined by FA-27 (Detection time of PID feedback loss) elapses, the AC drive reports E031.1.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-28	PID operation at stop	0xFA1C	Refer to "Value"	0	Unsigned	Real time	General	Effective in

					16 bit	changes	user	real time
	Value: 0: Disabled 1: Enabled 0: B-connector							
	Description: Used to determine whether to continue PID operation when the AC drive stops. 0: Not calculate at stop The PID function does not perform calculation when the motor does not operate. The output is cleared. 1: Calculate at stop The PID function performs calculation when the motor does not operate. The output changes based on the feedback and reference. Others: B connector Select the parameter in the bit connector to set whether to enable calculation at stop.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-29	Upper threshold of detection on feedback loss	0xFA1D	0.0%~100.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to check whether the PID feedback is lost. If the PID feedback keeps higher than the value of FA-29 after the time defined by FA-27 (Detection time of PID feedback loss) elapses, the AC drive reports E031.1. When this parameter is set to 100.0%, PID feedback loss detection is disabled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-30	Source of maximum output	0xFA1E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: [1] 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: Used to select the source of the maximum PID output value. When PID is used for frequency setting, the PID output is limited by frequency limit. When the PID is used for an application other than frequency reference, the output range is limited by FA-30 and FA-31. 0: [1]							

	Fixed value, 100% 1: AI1 AI1 used as the source 2: AI2 AI2 used as the source 3: AI3 AI3 used as the source 4: DI5 frequency used as the source 5: Communication Frequency of communication address 0x7310 used as the source 6: Multi-speed reference FC-52 (Multi-speed control mode) used as the source 7: Motorized potentiometer FB-20...FB-39 used as the source 8: PID Output value of PID control used as the source Others: F connector Connector used as the source

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-31	Source of minimum output	0xFA1F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value： 0： [0]　4： Pulse reference　7： Motor-driven potentiometer 1： AI1　5： Communication　8： PID 2： AI2　6： Multi-reference　0： F-connector 3： AI3							
	Description： Used to select the source of minimum PID output value. When the PID is used for frequency setting, the PID output is limited by frequency limit. When the PID is used for non-frequency setting, the output range is limited by FA-30 and FA-31. 0: [0] Fixed value, 0% 1: AI1 AI1 used as the source 2: AI2 AI2 used as the source 3: AI3 AI3 used as the source							

	4: DI5 frequency used as the source 5: Communication Frequency of communication address 0x7310 used as the source 6: Multi-speed reference FC-52 (Multi-speed control mode) used as the source 7: Motorized potentiometer FB-20...FB-39 used as the source 8: PID Output value of PID control used as the source Others: F connector Connector used as the source

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-32	Forced output value	0xFA20	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: [0]	4: Pulse reference	7: Motor-driven potentiometer
1: AI1	5: Communication	8: PID
2: AI2	6: Multi-reference	0: F-connector
3: AI3		

Description:

Used to select the source of forced value of PID output. When FA-33 (Forced value of PID output) is set to 1, the PID output retains the value selected by FA-32.

0: [0]

Fixed value, 0%

1: AI1

AI1 used as the source

2: AI2

AI2 used as the source

3: AI3

AI3 used as the source

4:

DI5 frequency used as the source

5: Communication

Frequency of communication address 0x7310 used as the source

6: Multi-speed reference

FC-52 (Multi-speed control mode) used as the source

7: Motorized potentiometer

FB-20...FB-39 used as the source

	8: PID Output value of PID control used as the source Others: F connector Connector used as the source

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-33	Forced output assignment	0xFA21	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled 0: B-connector							
	Description: 0: Disabled The output is not assigned forcibly, and the PID operation is performed as normal. 1: Enabled The PID operation stops and the output is forced to be the value defined by FA-32. Others: B-connector Whether to enable forced output assignment is determined by a parameter in the bit-connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-34	General PID enable	0xFA22	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled 0: B-connector							
	Description: 0: Disabled PID operation is not performed, and the output is cleared. 1: Enabled PID operation is performed based on parameters in group FA. Others: B-connector Whether to enable the PID function is determined by a parameter in the bit-connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

FA-35	PID saturation integral processing mode	0xFA23	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: OFF 1: ON							
	Description: The integral can remain unchanged during outputting upper and lower limits. 0: FA-25: PID integral attribute When the tens is set to 1 and FA-35 is set to 0, and the integral output of the PID is directly assigned by the integral output of the last cycle (Total output - Proportional output - Derivative output). 1: The integral is not processed. The PID calculates the integral output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FA-36	PID open circuit detection delay upon start	0xFA24	0.0s~20.0s	6.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Open circuit detection is not perform upon immediate start of PID unless the delay defined by FA-36 elapses.							

FB Wobble function, Fixed Length and Count

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-00	Wobble setting mode	0xFB00	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Relative to center frequency 1: Relative to maximum frequency							
	Description: 0: Relative to the center frequency (F0-07), used for a variable-wobble system whose wobble changes with the center frequency (frequency reference). 1: Relative to the maximum frequency (F0-10), used for a fixed-wobble system whose wobble is a fixed value calculated according to the maximum frequency. Note: For detailed instructions on using this function, refer to section Wobble Control Function in the MD520 Series General-Purpose AC Drive Function Guide.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

FB-01	Wobble amplitude	0xFB01	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When FB-01 is set to 0, the wobble function is disabled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-02	Wobble step	0xFB02	0.0%~50.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter and the wobble are used to define the jump frequency, namely, jump frequency = wobble x FB-02. The wobble running frequency is limited by the frequency upper limit and frequency lower limit.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-03	Wobble cycle	0xFB03	0.1s~3000.0s	10.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the time of a complete wobble cycle.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-04	Triangular wave rise time coefficient	0xFB04	0.1%~100.0%	50.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter indicates the percentage of triangular wave rising time to FB-03 (wobble cycle).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-05	Reference length	0xFB05	0m~65535m	1000m	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the length value to be controlled in fixed length control. Note 1: For detailed instructions on using this function, refer to section [Fixed Length Control Function] of the MD520 Series General-Purpose AC Drive Function Guide.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-06	Actual length	0xFB06	0m~65535m	0m	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: The actual length is a monitored value. Actual length (FB-06) = Number of pulses sampled by terminal/Number of pulses per meter (FB-07)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-07	Number of pulses per	0xFB07	0.1~6553.5	100.0	Unsigned	Real time	General	Effective in

	meter				16 bit	changes	user	real time
	Description: Indicates the number of pulses output per 1 m. The length pulse is sampled by DI5. DI5 must be allocated with the length count input function (F4-04 = 27).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-08	Reference count value	0xFB08	0~65535	1000	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the counting value reaches FB-08, the multi-function DO outputs an active signal indicating that the counting value reference has reached. Note 1: For detailed instructions on using this function, refer to the section "Counting Function" in the MD520 Series General-Purpose AC Drive Function Guide.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-09	Designated count value	0xFB09	0~65535	1000	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the count value reaches FB-09, the DO outputs an active signal indicating that the designated count value has reached. FB-09 must be lower than or equal to FB-08 (set count value).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-20	Motor-driven potentiometer enable	0xFB14	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: The motorized potentiometer can implement virtual potentiometer output. 0: The motorized potentiometer is disabled. 1: The motorized potentiometer is enabled. 3–18: The value is determined by the corresponding DI. Others: B-connector							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-21	Memory retention at power failure of	0xFB15	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

	motorized potentiometer							
	Value: 0: Disabled 1: Enabled							
	Description: If memory retention at power failure is enabled and the motorized potentiometer is enabled before power failure, the output value of the motorized potentiometer after power-on is the last output value before the power failure. 0: Non-retentive upon power failure 1: Retentive upon power failure							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-22	Initial value of motorized potentiometer	0xFB16	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Indicates the per-unit value outputted in the initial state after the motorized potentiometer changes from "disabled" to "enabled".							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-23	Value increase time base of motorized potentiometer	0xFB17	0.00s~655.35s	20.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the increase rate of the motor potentiometer count value, specifically the time required to increase from 0 to the maximum frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-24	Value decrease time base of motorized potentiometer	0xFB18	0.00s~655.35s	20.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the decrease rate of the motor potentiometer count value, specifically the time required to decrease from the maximum frequency to 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-25	Source of motorized potentiometer increase command	0xFB19	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 8: DI6 14: DI12							

	1： Active 3： DI1 4： DI2 5： DI3 6： DI4 7： DI5		9： DI7 10： DI8 11： DI9 12： DI10 13： DI11		15： DI13 16： DI14 17： DI15 18： DI16 0： B-connector			
	Description： This parameter defines the source of the output value increase command of the motorized potentiometer. 0: The increase command source is invalid. 1: The increase command source is valid. 3–18: The increase command source is the corresponding DI value. Others: B-connector							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-26	Source of motorized potentiometer decrease command	0xFB1A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value： 0： Inactive 1： Active 3： DI1 4： DI2 5： DI3 6： DI4 7： DI5		8： DI6 9： DI7 10： DI8 11： DI9 12： DI10 13： DI11		14： DI12 15： DI13 16： DI14 17： DI15 18： DI16 0： B-connector			
	Description： This parameter defines the source of the output value decrease command of the motorized potentiometer. 0: The decrease command source is invalid. 1: The decrease command source is valid. 3–18: The decrease command source is the corresponding DI value. Others: B-connector							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-27	Maximum output value of motorized potentiometer	0xFB1B	-600.0%~+600.0%	600.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description： This parameter defines the maximum per-unit value that the motorized potentiometer can output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-28	Minimum output value of motorized	0xFB1C	-600.0%~+600.0%	-600.0%	Signed 16 bits	Real time changes	General user	Effective in real time

	potentiometer							
	Description: This parameter defines the minimum per-unit value that the motorized potentiometer can output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-29	Source 1 of motorized potentiometer pause command	0xFB1D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: Active 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: When the pause command is 0, the pause is invalid; when the pause command is 1, the motorized potentiometer pauses. 0: The pause is invalid. 1: The pause is valid. 3–18: The command is the value input by the corresponding DI. Others: B-connector							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-30	Source 2 of motorized potentiometer pause command	0xFB1E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: Same as"FB-29"							
	Description: Same as"FB-29"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-31	Source 1 of motorized potentiometer reset command	0xFB1F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: Active 3: DI1 4: DI2 5: DI3 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16							

	6： DI4 7： DI5		13： DI11		0： B-connector			
	Description： When the reset command is 0, the reset is invalid; when the reset command is 1, the output of the motorized potentiometer is reset. 0: The reset is invalid. 1: The reset is valid. 3–18: The command is the value input by the corresponding DI. Others: B-connector							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-32	Source 2 of motorized potentiometer reset command	0xFB20	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value： Same as"FB-31"							
	Description： Same as"FB-31"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-33	Source of motorized potentiometer reset value	0xFB21	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value： 0： Digital setting 1： AI1 2： AI2 3： AI3		4： Pulse reference 5： Communication 6： Multi-reference		7： Motor-driven potentiometer 8： PID 0： F-connector			
	Description： This parameter defines the specific per-unit value of reset after the motorized potentiometer receives the reset command. 0: Value of FB-34 1–3: Corresponding AI input value 4: Pulse input value 5: Value input through communication 6: Multi-reference output value 7: Motor-driven potentiometer output value 8: General PID output value Others: F-connector							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-34	Reset value of motorized	0xFB22	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time

	potentiometer							
	Description: When FB-33 is set to 0, the reset value of the motorized potentiometer is the parameter setpoint.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-35	Source of motorized potentiometer force command	0xFB23	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: Active 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: When the force command is 0, the force is invalid; when the force command is 1, the output of the motorized potentiometer is forced to the designated value. 0: The force invalid. 1: The force is valid. 3–18: The command is the value input by the corresponding DI. Others: B-connector							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-36	Source of motorized potentiometer force value	0xFB24	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Digital setting 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: This parameter defines the forced per-unit value after the motorized potentiometer receives the force command. 0: Value of FB-37 1–3: Corresponding AI input value 4: Pulse input value 5: Value input through communication 6: Multi-reference output value 7: Motor-driven potentiometer output value 8: General PID output value							

	Others: F-connector							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-37	Force value of motorized potentiometer	0xFB25	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: When FB-36 is set to 0, the reset value of the motorized potentiometer is the parameter setpoint.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-38	High-order bits of motorized potentiometer storage	0xFB26	0~65535	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to save the high bits of motorized potentiometer.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-39	Low-order bits of motorized potentiometer storage	0xFB27	0~65535	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to save the low bits of motorized potentiometer.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-45	SOP timeout detection threshold	0xFB2D	0.50s~655.35s	0.50s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to control threshold of timeout threshold.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-46	Simple UP/DOWN output	0xFB2E	-32767~+32767	0	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Used to save the adjustment value of updown after power-off. Note 1: F0-08 must be set to 1 to enable updown power-off memory.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FB-47	Encoder counter clear	0xFB2F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive							

	1： Active
	Description： When this parameter is set to 1, U0-47 and U0-48 are cleared.

FC Multi-reference

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-00	Multi-reference 1	0xFC00	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description： This parameter indicates the frequency reference of each speed in the unit of %. The actual frequency is the percentage of the maximum frequency. The value 100% corresponds to F0-10 (Maximum frequency). FC-55 to FC-58 can provide 16 state combinations, corresponding to 16 frequency references. The DIs assigned with functions 12 to 15 can also be used to form 16 frequency references. The source of multi-reference 1 is selected by FC-51, and the other multi-references are set by other parameters. When outputting to a float connector, the multi-reference can be used not only as the frequency reference, but also as the torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-01	Multi-reference 2	0xFC01	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description： This parameter indicates the frequency reference of each speed in the unit of %. The actual frequency is the percentage of the maximum frequency. The value 100% corresponds to F0-10 (Maximum frequency). FC-55 to FC-58 can provide 16 state combinations, corresponding to 16 frequency references. The DIs assigned with functions 12 to 15 can also be used to form 16 frequency references. When outputting to a float connector, the multi-reference can be used not only as the frequency reference, but also as the torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-02	Multi-reference 3	0xFC02	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description：							

	This parameter indicates the frequency reference of each speed in the unit of %. The actual frequency is the percentage of the maximum frequency. The value 100% corresponds to F0-10 (Maximum frequency). FC-55 to FC-58 can provide 16 state combinations, corresponding to 16 frequency references. The DIs assigned with functions 12 to 15 can also be used to form 16 frequency references. When outputting to a float connector, the multi-reference can be used not only as the frequency reference, but also as the torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-03	Multi-reference 4	0xFC03	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: This parameter indicates the frequency reference of each speed in the unit of %. The actual frequency is the percentage of the maximum frequency. The value 100% corresponds to F0-10 (Maximum frequency). FC-55 to FC-58 can form 16 state combinations, corresponding to 16 frequency references. The DIs assigned with functions 12 to 15 can also be used to form 16 frequency references. When outputting to a float connector, the multi-reference can be used not only as the frequency reference, but also as the torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-04	Multi-reference 5	0xFC04	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: This parameter indicates the frequency reference of each speed in the unit of %. The actual frequency is the percentage of the maximum frequency. The value 100% corresponds to F0-10 (Maximum frequency). FC-55 to FC-58 can form 16 state combinations, corresponding to 16 frequency references. The DIs assigned with functions 12 to 15 can also be used to form 16 frequency references. When outputting to a float connector, the multi-reference can be used not only as the frequency reference, but also as the torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-05	Multi-reference 6	0xFC05	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: This parameter indicates the frequency reference of each speed in the unit of %. The actual frequency is the percentage of the maximum frequency. The value 100% corresponds to F0-10 (Maximum frequency).							

	FC-55 to FC-58 can form 16 state combinations, corresponding to 16 frequency references. The DIs assigned with functions 12 to 15 can also be used to form 16 frequency references. When outputting to a float connector, the multi-reference can be used not only as the frequency reference, but also as the torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-06	Multi-reference 7	0xFC06	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: This parameter indicates the frequency reference of each speed in the unit of %. The actual frequency is the percentage of the maximum frequency. The value 100% corresponds to F0-10 (Maximum frequency). FC-55 to FC-58 can form 16 state combinations, corresponding to 16 frequency references. The DIs assigned with functions 12 to 15 can also be used to form 16 frequency references. When outputting to a float connector, the multi-reference can be used not only as the frequency reference, but also as the torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-07	Multi-reference 8	0xFC07	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: This parameter indicates the frequency reference of each speed in the unit of %. The actual frequency is the percentage of the maximum frequency. The value 100% corresponds to F0-10 (Maximum frequency). FC-55 to FC-58 can form 16 state combinations, corresponding to 16 frequency references. The DIs assigned with functions 12 to 15 can also be used to form 16 frequency references. When outputting to a float connector, the multi-reference can be used not only as the frequency reference, but also as the torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-08	Multi-reference 9	0xFC08	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: This parameter indicates the frequency reference of each speed in the unit of %. The actual frequency is the percentage of the maximum frequency. The value 100% corresponds to F0-10 (Maximum frequency). FC-55 to FC-58 can form 16 state combinations, corresponding to 16 frequency references. The DIs assigned with functions 12 to 15 can also be used to form 16 frequency references.							

	When outputting to a float connector, the multi-reference can be used not only as the frequency reference, but also as the torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-09	Multi-reference 10	0xFC09	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: This parameter indicates the frequency reference of each speed in the unit of %. The actual frequency is the percentage of the maximum frequency. The value 100% corresponds to F0-10 (Maximum frequency). FC-55 to FC-58 can form 16 state combinations, corresponding to 16 frequency references. The DIs assigned with functions 12 to 15 can also be used to form 16 frequency references. When outputting to a float connector, the multi-reference can be used not only as the frequency reference, but also as the torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-10	Multi-reference 11	0xFC0A	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: This parameter indicates the frequency reference of each speed in the unit of %. The actual frequency is the percentage of the maximum frequency. The value 100% corresponds to F0-10 (Maximum frequency). FC-55 to FC-58 can form 16 state combinations, corresponding to 16 frequency references. The DIs assigned with functions 12 to 15 can also be used to form 16 frequency references. When outputting to a float connector, the multi-reference can be used not only as the frequency reference, but also as the torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-11	Multi-reference 12	0xFC0B	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: This parameter indicates the frequency reference of each speed in the unit of %. The actual frequency is the percentage of the maximum frequency. The value 100% corresponds to F0-10 (Maximum frequency). FC-55 to FC-58 can form 16 state combinations, corresponding to 16 frequency references. The DIs assigned with functions 12 to 15 can also be used to form 16 frequency references. When outputting to a float connector, the multi-reference can be used not only as the frequency reference, but also as the							

	torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-12	Multi-reference 13	0xFC0C	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: This parameter indicates the frequency reference of each speed in the unit of %. The actual frequency is the percentage of the maximum frequency. The value 100% corresponds to F0-10 (Maximum frequency). FC-55 to FC-58 can form 16 state combinations, corresponding to 16 frequency references. The DIs assigned with functions 12 to 15 can also be used to form 16 frequency references. When outputting to a float connector, the multi-reference can be used not only as the frequency reference, but also as the torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-13	Multi-reference 14	0xFC0D	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: This parameter indicates the frequency reference of each speed in the unit of %. The actual frequency is the percentage of the maximum frequency. The value 100% corresponds to F0-10 (Maximum frequency). FC-55 to FC-58 can form 16 state combinations, corresponding to 16 frequency references. The DIs assigned with functions 12 to 15 can also be used to form 16 frequency references. When outputting to a float connector, the multi-reference can be used not only as the frequency reference, but also as the torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-14	Multi-reference 15	0xFC0E	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: This parameter indicates the frequency reference of each speed in the unit of %. The actual frequency is the percentage of the maximum frequency. The value 100% corresponds to F0-10 (Maximum frequency). FC-55 to FC-58 can form 16 state combinations, corresponding to 16 frequency references. The DIs assigned with functions 12 to 15 can also be used to form 16 frequency references. When outputting to a float connector, the multi-reference can be used not only as the frequency reference, but also as the torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-15	Multi-reference 16	0xFC0F	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: This parameter indicates the frequency reference of each speed in the unit of %. The actual frequency is the percentage of the maximum frequency. The value 100% corresponds to F0-10 (Maximum frequency). FC-55 to FC-58 can form 16 state combinations, corresponding to 16 frequency references. The DIs assigned with functions 12 to 15 can also be used to form 16 frequency references. When outputting to a float connector, the multi-reference can be used not only as the frequency reference, but also as the torque, voltage, or other reference input. The multi-reference value is a percentage of the rated value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-16	Simple PLC running mode	0xFC10	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Stop after running for one cycle 1: Keep final values after running for one cycle 2: Repeat after running for one cycle							
	Description: When using the simple PLC to set the main frequency (F0-03 = 7), set FC-16 to select the operation mode of the PLC and FC-17 to select whether to remain the operating status and frequency of the PLC after power failure or stop. 0: Stop after running for one cycle The AC drive stops after running for one cycle, and starts after receiving another running command. 1: Keep final values after running for one cycle The AC drive keeps the final running frequency and direction after running for one cycle and starts from the initial PLC state upon restart. 2: Repeat after running for one cycle The AC drive automatically starts another cycle after running for one cycle, and stops only when receiving a stop command. Note: Stop according to the stop mode set by F6-10.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-17	Simple PLC memory retention upon power failure	0xFC11	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Retentive upon power failure	0: Non-retentive upon power failure 1: Retentive upon power failure
Tens	Retentive upon stop	0: Non-retentive upon stop 1: Retentive upon stop

Description:

The operation mode of the simple PLC is set by FC-16. FC-17 is used to determine whether the running stage and running frequency of the PLC before power failure are memorized upon power failure or shutdown.

Ones: Retentive upon power failure

Used to determine whether the simple PLC process is restarted upon each power-on. When it is set to 1, the AC drive retains the PLC operation stage and operating frequency upon power failure and continues to run from the retained values after the drive is powered on again.

Tens: Retentive upon stop

Used to determine whether the simple PLC process is restarted upon each start. When it is set to 1, the AC drive retains the PLC operation stage and operating frequency upon stop and continues to run from the retained values after the drive is started again.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-18	Running time of multi-reference 1 set by simple PLC	0xFC12	0.0s(h)~6553.5s(h)	0.0s(h)	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

Indicates the running time of multi-reference 1 set by simple PLC. The operating time is the sum of acceleration or deceleration time and operating time at constant speed and target frequency.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-19	Acceleration/Deceleration time of multi-reference 1 set by simple PLC	0xFC13	0~3	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

Indicates the acceleration/deceleration time of simple PLC reference 1.

0: Acceleration/Deceleration time in group 1 (F0-17, F0-18)

1: Acceleration/Deceleration time in group 2 (F8-03, F8-04)

2: Acceleration/Deceleration time in group 3 (F8-05, F8-06)

3: Acceleration/Deceleration time in group 4 (F8-07, F8-08)

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

FC-20	Running time of multi-reference 2 set by simple PLC	0xFC14	0.0s(h)~6553.5s(h)	0.0s(h)	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the running time of multi-reference 2 set by simple PLC. The operating time is the sum of acceleration or deceleration time and operating time at constant speed and target frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-21	Acceleration/Deceleration time of multi-reference 2 set by simple PLC	0xFC15	0~3	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the acceleration/deceleration time of simple PLC reference 2. 0: Acceleration/Deceleration time in group 1 (F0-17, F0-18) 1: Acceleration/Deceleration time in group 2 (F8-03, F8-04) 2: Acceleration/Deceleration time in group 3 (F8-05, F8-06) 3: Acceleration/Deceleration time in group 4 (F8-07, F8-08)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-22	Running time of multi-reference 3 set by simple PLC	0xFC16	0.0s(h)~6553.5s(h)	0.0s(h)	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the running time of multi-reference 3 set by simple PLC. The operating time is the sum of acceleration or deceleration time and operating time at constant speed and target frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-23	Acceleration/Deceleration time of multi-reference 3 set by simple PLC	0xFC17	0~3	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the acceleration/deceleration time of multi-reference 3 set by simple PLC 0: Acceleration/Deceleration time in group 1 (F0-17, F0-18) 1: Acceleration/Deceleration time in group 2 (F8-03, F8-04) 2: Acceleration/Deceleration time in group 3 (F8-05, F8-06) 3: Acceleration/Deceleration time in group 4 (F8-07, F8-08)							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-24	Running time of multi-reference 4 set by simple PLC	0xFC18	0.0s(h)~6553.5s(h)	0.0s(h)	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the running time of multi-reference 4 set by simple PLC. The operating time is the sum of acceleration or deceleration time and operating time at constant speed and target frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-25	Acceleration/Deceleration time of multi-reference 4 set by simple PLC	0xFC19	0~3	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the acceleration/deceleration time of simple PLC reference 4. 0: Acceleration/Deceleration time in group 1 (F0-17, F0-18) 1: Acceleration/Deceleration time in group 2 (F8-03, F8-04) 2: Acceleration/Deceleration time in group 3 (F8-05, F8-06) 3: Acceleration/Deceleration time in group 4 (F8-07, F8-08)							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-26	Running time of multi-reference 5 set by simple PLC	0xFC1A	0.0s(h)~6553.5s(h)	0.0s(h)	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the running time of multi-reference 5 set by simple PLC. The operating time is the sum of acceleration or deceleration time and operating time at constant speed and target frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-27	Acceleration/Deceleration time of multi-reference 5 set by simple PLC	0xFC1B	0~3	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the acceleration/deceleration time of simple PLC reference 5. 0: Acceleration/Deceleration time in group 1 (F0-17, F0-18) 1: Acceleration/Deceleration time in group 2 (F8-03, F8-04)							

	2: Acceleration/Deceleration time in group 3 (F8-05, F8-06) 3: Acceleration/Deceleration time in group 4 (F8-07, F8-08)

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-28	Running time of multi-reference 6 set by simple PLC	0xFC1C	0.0s(h)~6553.5s(h)	0.0s(h)	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the running time of multi-reference 6 set by simple PLC. The operating time is the sum of acceleration or deceleration time and operating time at constant speed and target frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-29	Acceleration/Deceleration time of multi-reference 6 set by simple PLC	0xFC1D	0~3	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the acceleration/deceleration time of simple PLC reference 6. 0: Acceleration/Deceleration time in group 1 (F0-17, F0-18) 1: Acceleration/Deceleration time in group 2 (F8-03, F8-04) 2: Acceleration/Deceleration time in group 3 (F8-05, F8-06) 3: Acceleration/Deceleration time in group 4 (F8-07, F8-08)							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-30	Running time of multi-reference 7 set by simple PLC	0xFC1E	0.0s(h)~6553.5s(h)	0.0s(h)	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the running time of multi-reference 7 set by simple PLC. The operating time is the sum of acceleration or deceleration time and operating time at constant speed and target frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-31	Acceleration/Deceleration time of multi-reference 7 set by simple PLC	0xFC1F	0~3	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the acceleration/deceleration time of simple PLC reference 7.							

	0: Acceleration/Deceleration time in group 1 (F0-17, F0-18) 1: Acceleration/Deceleration time in group 2 (F8-03, F8-04) 2: Acceleration/Deceleration time in group 3 (F8-05, F8-06) 3: Acceleration/Deceleration time in group 4 (F8-07, F8-08)

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-32	Running time of multi-reference 8 set by simple PLC	0xFC20	0.0s(h)~6553.5s(h)	0.0s(h)	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the running time of multi-reference 8 set by simple PLC. The operating time is the sum of acceleration or deceleration time and operating time at constant speed and target frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-33	Acceleration/Deceleration time of multi-reference 8 set by simple PLC	0xFC21	0~3	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the acceleration/deceleration time of simple PLC reference 8. 0: Acceleration/Deceleration time in group 1 (F0-17, F0-18) 1: Acceleration/Deceleration time in group 2 (F8-03, F8-04) 2: Acceleration/Deceleration time in group 3 (F8-05, F8-06) 3: Acceleration/Deceleration time in group 4 (F8-07, F8-08)							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-34	Running time of multi-reference 9 set by simple PLC	0xFC22	0.0s(h)~6553.5s(h)	0.0s(h)	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the running time of multi-reference 9 set by simple PLC. The operating time is the sum of acceleration or deceleration time and operating time at constant speed and target frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-35	Acceleration/Deceleration time of multi-reference 9 set by simple PLC	0xFC23	0~3	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

	Description: Indicates the acceleration/deceleration time of simple PLC reference 9. 0: Acceleration/Deceleration time in group 1 (F0-17, F0-18) 1: Acceleration/Deceleration time in group 2 (F8-03, F8-04) 2: Acceleration/Deceleration time in group 3 (F8-05, F8-06) 3: Acceleration/Deceleration time in group 4 (F8-07, F8-08)

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-36	Running time of multi-reference 10 set by simple PLC	0xFC24	0.0s(h)~6553.5s(h)	0.0s(h)	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the running time of multi-reference 10 set by simple PLC. The operating time is the sum of acceleration or deceleration time and operating time at constant speed and target frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-37	Acceleration/Deceleration time of multi-reference 10 set by simple PLC	0xFC25	0~3	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the acceleration/deceleration time of simple PLC reference 10. 0: Acceleration/Deceleration time in group 1 (F0-17, F0-18) 1: Acceleration/Deceleration time in group 2 (F8-03, F8-04) 2: Acceleration/Deceleration time in group 3 (F8-05, F8-06) 3: Acceleration/Deceleration time in group 4 (F8-07, F8-08)							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-38	Running time of multi-reference 11 set by simple PLC	0xFC26	0.0s(h)~6553.5s(h)	0.0s(h)	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the running time of multi-reference 11 set by simple PLC. The operating time is the sum of acceleration or deceleration time and operating time at constant speed and target frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-39	Acceleration/Deceleration	0xFC27	0~3	0	Unsigned	Real	General	Effective

	time of multi-reference 11 set by simple PLC				16 bit	time changes	user	in real time
	Description: Indicates the acceleration/deceleration time of simple PLC reference 11. 0: Acceleration/Deceleration time in group 1 (F0-17, F0-18) 1: Acceleration/Deceleration time in group 2 (F8-03, F8-04) 2: Acceleration/Deceleration time in group 3 (F8-05, F8-06) 3: Acceleration/Deceleration time in group 4 (F8-07, F8-08)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-40	Running time of multi-reference 12 set by simple PLC	0xFC28	0.0s(h)~6553.5s(h)	0.0s(h)	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the running time of multi-reference 12 set by simple PLC. The operating time is the sum of acceleration or deceleration time and operating time at constant speed and target frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-41	Acceleration/Deceleration time of multi-reference 12 set by simple PLC	0xFC29	0~3	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the acceleration/deceleration time of simple PLC reference 12. 0: Acceleration/Deceleration time in group 1 (F0-17, F0-18) 1: Acceleration/Deceleration time in group 2 (F8-03, F8-04) 2: Acceleration/Deceleration time in group 3 (F8-05, F8-06) 3: Acceleration/Deceleration time in group 4 (F8-07, F8-08)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-42	Running time of multi-reference 13 set by simple PLC	0xFC2A	0.0s(h)~6553.5s(h)	0.0s(h)	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the running time of multi-reference 13 set by simple PLC. The operating time is the sum of acceleration or deceleration time and operating time at constant speed and target frequency.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
FC-43	Acceleration/Deceleration time of multi-reference 13 set by simple PLC	0xFC2B	0~3	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the acceleration/deceleration time of simple PLC reference 13. 0: Acceleration/Deceleration time in group 1 (F0-17, F0-18) 1: Acceleration/Deceleration time in group 2 (F8-03, F8-04) 2: Acceleration/Deceleration time in group 3 (F8-05, F8-06) 3: Acceleration/Deceleration time in group 4 (F8-07, F8-08)							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-44	Running time of multi-reference 14 set by simple PLC	0xFC2C	0.0s(h)~6553.5s(h)	0.0s(h)	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the running time of multi-reference 14 set by simple PLC. The operating time is the sum of acceleration or deceleration time and operating time at constant speed and target frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-45	Acceleration/Deceleration time of multi-reference 14 set by simple PLC	0xFC2D	0~3	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the acceleration/deceleration time of simple PLC reference 14. 0: Acceleration/Deceleration time in group 1 (F0-17, F0-18) 1: Acceleration/Deceleration time in group 2 (F8-03, F8-04) 2: Acceleration/Deceleration time in group 3 (F8-05, F8-06) 3: Acceleration/Deceleration time in group 4 (F8-07, F8-08)							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-46	Running time of multi-reference 15 set by simple PLC	0xFC2E	0.0s(h)~6553.5s(h)	0.0s(h)	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the running time of multi-reference 15 set by simple PLC. The operating time is the sum of acceleration or							

	deceleration time and operating time at constant speed and target frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-47	Acceleration/Deceleration time of multi-reference 15 set by simple PLC	0xFC2F	0~3	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the acceleration/deceleration time of simple PLC reference 15. 0: Acceleration/Deceleration time in group 1 (F0-17, F0-18) 1: Acceleration/Deceleration time in group 2 (F8-03, F8-04) 2: Acceleration/Deceleration time in group 3 (F8-05, F8-06) 3: Acceleration/Deceleration time in group 4 (F8-07, F8-08)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-48	Running time of multi-reference 16 set by simple PLC	0xFC30	0.0s(h)~6553.5s(h)	0.0s(h)	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the running time of multi-reference 16 set by simple PLC. The operating time is the sum of acceleration or deceleration time and operating time at constant speed and target frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-49	Acceleration/Deceleration time of multi-reference 16 set by simple PLC	0xFC31	0~3	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the acceleration/deceleration time of simple PLC reference 16. 0: Acceleration/Deceleration time in group 1 (F0-17, F0-18) 1: Acceleration/Deceleration time in group 2 (F8-03, F8-04) 2: Acceleration/Deceleration time in group 3 (F8-05, F8-06) 3: Acceleration/Deceleration time in group 4 (F8-07, F8-08)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-50	Time unit of simple PLC	0xFC32	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

	Value： 0： s (second) 1： h (hour)
	Description： Defines the unit of the PLC running time for each speed.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-51	Multi-reference 1 source	0xFC33	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value：

0： FC-00
1： AI1
2： AI2
3： AI3
4： Pulse reference
5： PID
6： Preset frequency (F0-08)
Others： F connector

Description：

The frequency reference of multi-reference 1 can be selected through seven ways, including digital setting, analog input, pulse frequency, PID, and preset frequency.

0: FC-00

FC-00 used as the source

1: AI1

AI1 used as the source

2: AI2

AI2 used as the source

3: AI3

AI3 used as the source

4: Pulse reference

Pulse frequency reference used as the source

5: PID

PID used as the source

6: Preset frequency (F0-08)

F0-08 (preset frequency) used as the source

Others: F connector

Connector used as the source

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-52	Current multi-reference	0xFC34	Refer to "Value"	0	Unsigned 16 bit	Cannot be	General user	Effective in real

						changed		time
	Value: 0: Reference 1 1: Reference 2 2: Reference 3 3: Reference 4 4: Reference 5 5: Reference 6 6: Reference 7 7: Reference 8 8: Multi-reference 9 9: Multi-reference 10 10: Multi-reference 11 11: Multi-reference 12 12: Multi-reference 13 13: Multi-reference 14 14: Multi-reference 15 15: Multi-reference 16							
	Description: Displays actual multi-reference No..							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-53	Current multi-reference value	0xFC35	-600.0%~+600.0%	0.0%	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Displays current multi-reference frequency (unit percentage). The actual running frequency of the AC drive is FC-53 x F0-10 (unit: Hz).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-55	Multi-reference value selection K1	0xFC37	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: 0 1: 1 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector							
	Description: Defines the K1 control source. Note: This parameter is inactive when the DI terminal is assigned with DI function 12 (Multi-reference terminal 1).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

FC-56	Multi-reference value selection K2	0xFC38	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: 0 1: 1 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector							
	Description: Defines the K2 control source. Note: This parameter is inactive when the DI terminal is assigned with DI function 13 (Multi-reference terminal 2).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-57	Multi-reference value selection K3	0xFC39	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: 0 1: 1 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector							
	Description: Defines the K3 control source. Note: This parameter is inactive when the DI terminal is assigned with DI function 14 (Multi-reference terminal 3).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-58	Multi-reference value selection K4	0xFC3A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: 0 7: DI5 14: DI12							

	1：1	8：DI6	15：DI13
	2：Terminal function input	9：DI7	16：DI14
	3：DI1	10：DI8	17：DI15
	4：DI2	11：DI9	18：DI16
	5：DI3	12：DI10	Others：B connector
	6：DI4	13：DI11	
	Description： Defines the K4 control source. Note: This parameter is inactive when the DI terminal is assigned with DI function 15 (Multi-reference terminal 4).		

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FC-59	Current number of operating segments of the PLC	0xFC3B	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
FC-60	Defines the high-order bits of the operating time of current number of segments of PLC.	0xFC3C	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
FC-61	Defines the low-order bits of the operating time of current number of segments of PLC.	0xFC3D	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time

FD Communication parameters

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-00	Baud rate	0xFD00	Refer to "Value"	5005	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value： Bit / Name / Value							

Ones	MODBUS	0: 300 bps 1: 600 bps 2: 1200 bps 3: 2400 bps 4: 4800 bps 5: 9600 bps 6: 19200 bps 7: 38400 bps 8: 57600 bps 9: 115200 bps	
Tens	Reserved		
Hundreds	Reserved		
Thousands	CANlink/CANopen baud rate	0: 20 kbps 1: 50 kbps 2: 100 kbps 3: 125 kbps 4: 250 kbps 5: 500 kbps 6: 1 Mbps	

Description:

This parameter defines the speed of data transmission between the host controller and the AC drive. The higher the baud rate, the quicker the communication speed.

Note that the baud rate of the host controller must be the same as that of the AC drive. Otherwise, communication will fail.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-01	Modbus data format	0xFD01	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: No check (8-N-2)
1: Even parity check (8-E-1)
2: Odd parity check (8-O-1)
3: No check (8-N-1)
4: No check (7-N-2)
5: Even parity check (7-E-1)
6: Odd parity check (7-O-1)
7: No check (7-N-1)

Description:

This parameter defines the format of Modbus data transmitted between the host controller and AC drive. Note that the data format of the host controller must be the same as that of the AC drive. Otherwise, communication fails.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

FD-02	Local address	0xFD02	1~247	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The local address must be unique in the range of 1 to 247, which is the basis for point-to-point communication between the AC drive and host controller. Note: This parameter is used to set the station alias when EtherCAT communication with the communication card version other than V125 (U0-67) applies. When EtherCAT communication with the communication card version V125 applies, the parameter cannot be used to set the station alias.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-03	Modbus response delay	0xFD03	0ms~20ms	2ms	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the interval between the AC drive completing data receiving and host controller completing data sending. If the response delay is shorter than the system processing time, the system processing time prevails. This means that the system processes data and then sends the data to the host controller. If the response delay is longer than the system processing time, the system processes data and waits for the response delay time. After the time elapses, the system sends the data to the host controller.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-04	Communication timeout time	0xFD04	0.0s~60.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When it is set to 0.0s, the Modbus communication timeout time is invalid. Generally, set it to 0.0s. This parameter is used to monitor communication status in a system with continuous communication. When it is set to an effective value, if the time interval between the current communication and the next communication exceeds Fd-04 (Modbus communication interruption detection time), the system reports a communication fault (E160.1).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-06	Current resolution read through communication	0xFD06	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: 0.01 A (valid when the AC drive power is lower than 55 kW)							

	1：0.1 A
	Description： Used to set the resolution of U0-04.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-09	Speed reference type	0xFD09	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value： 0： Frequency 1： Speed 2： Percentage							
	Description： Used to set the speed reference type through 7310H address.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-10	Switchover between CANopen and CANlink	0xFD0A	Refer to "Value"	2	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value： 1：CANopen 2：CANlink							
	Description： This parameter is used to select the CAN communication protocol for the CAN1 expansion card. The setpoint 1 represents CANopen communication and the setpoint 2 represents CANlink communication.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-11	CIA402 enable	0xFD0B	0~1	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description： This parameter sets whether to enable the CiA 402 mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

FD-14	Number of frames received per unit time	0xFD0E	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Used to monitor the bus load. This parameter indicates the number of CAN frames received by this station each second. It is valid only for the CANlink communication expansion card.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-15	Maximum RX error count	0xFD0F	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Used to monitor bus errors. This parameter defines the maximum number of error frames received by the node. It is valid only for the CANlink communication expansion card.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-16	Maximum TX error count	0xFD10	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Used to monitor bus errors. It defines the maximum number of error frames sent by the node. It is valid only for the CANlink communication expansion card.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-17	Bus-off count per unit time	0xFD11	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Used to monitor bus errors. It defines the number that the node disconnects from the CAN bus. It is valid only for the CANlink communication expansion card.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-19	This parameter defines the CAN communication disconnection coefficient.	0xFD13	1~15	3	Unsigned 16 bit	Shutdown change	General user	Effective in real time

	Description: This parameter is used to set the number of timeout events allowed in CANopen communication before an alarm is reported.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-26	CIA 402 parameter-write storage	0xFD1A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Do not save EEPROM 1: Save EEPROM							
	Description: Used to decide whether to save parameters written in SDO to EEPROM.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-27	Saving parameters written through communication	0xFD1B	0~1	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to decide whether to save the RAM address written through communication to EEPROM.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-28	Communication fault automatic reset	0xFD1C	0~1	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to decide whether to enable automatic communication fault reset.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-29	Communication status	0xFD1D	0~999	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: This read-only parameter is used to monitor the communication status.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-34	CANopen mode	0xFD22	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Default mode 1: Expert mode							
	Description: Used to set CANopen user control mode. 0: Default mode PLC sends configuration information through the mapping parameter group. 1: Expert mode The PLC operates on parameters directly.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-35	CANopen inhibit time	0xFD23	0μs~65535μs	0μs	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the inhibit time of CANopen expert mode in 100 us.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-36	CANopen event time	0xFD24	0ms~65535ms	0ms	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the event time of CANopen expert mode in ms.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-37	DHCP function	0xFD25	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled							

	1： Enabled
	Description： Used to set whether to enable the DHCP mode of EtherNet/IP and Modbus TCP.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-38	Most significant byte of the IP address	0xFD26	0~255	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description： Used to set the MSB of the IP address of Ethernet expansion card (EtherNet/IP, Modbus TCP). Example: In the address 192.68.1.80, 192 represents the MSB of the IP address, 68 represents the second MSB of the IP address, 1 represents the third byte of the IP address, and 80 represents the LSB of the IP address.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-39	Second most significant byte of the IP address	0xFD27	0~255	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description： Used to set the second MSB of the IP address of Ethernet expansion card (EtherNet/IP, Modbus TCP). Example: In the address 192.68.1.80, 192 represents the MSB of the IP address, 68 represents the second MSB of the IP address, 1 represents the third byte of the IP address, and 80 represents the LSB of the IP address.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-40	Third byte of the IP address	0xFD28	0~255	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description： Used to set the third byte of the IP address of Ethernet expansion card (EtherNet/IP, Modbus TCP). Example: In the address 192.68.1.80, 192 represents the MSB of the IP address, 68 represents the second MSB of the IP address, 1 represents the third byte of the IP address, and 80 represents the LSB of the IP address.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-41	Least significant byte of the IP address	0xFD29	0~255	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

	Description: Used to set the LSB of the IP address of Ethernet expansion card (EtherNet/IP, Modbus TCP). Example: In the address 192.68.1.80, 192 represents the MSB of the IP address, 68 represents the second MSB of the IP address, 1 represents the third byte of the IP address, and 80 represents the LSB of the IP address.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-42	Most significant byte of the subnet mask	0xFD2A	0~255	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the MSB of the subnet mask code of Ethernet expansion card (EtherNet/IP, Modbus TCP). Example: In the address 255.255.255.0, 255 represents the MSB of the subnet mask code, 255 represents the second MSB of the subnet mask code, the second 255 represents the third byte of the subnet mask code, and 0 represents the LSB of the subnet mask code.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-43	Second most significant byte of the subnet mask	0xFD2B	0~255	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the second MSB of the subnet mask code of Ethernet expansion card (EtherNet/IP, Modbus TCP). Example: In the address 255.255.255.0, 255 represents the MSB of the subnet mask code, 255 represents the second MSB of the subnet mask code, the second 255 represents the third byte of the subnet mask code, and 0 represents the LSB of the subnet mask code.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-44	Third byte of the subnet mask	0xFD2C	0~255	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the third byte of the subnet mask code of Ethernet expansion card (EtherNet/IP, Modbus TCP). Example: In the address 255.255.255.0, 255 represents the MSB of the subnet mask code, 255 represents the second MSB of the subnet mask code, the second 255 represents the third byte of the subnet mask code, and 0 represents the LSB of the subnet mask code.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

FD-45	Least significant byte of the subnet mask	0xFD2D	0~255	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the LSB of the subnet mask code of Ethernet expansion card (EtherNet/IP, Modbus TCP). Example: In the address 255.255.255.0, 255 represents the MSB of the subnet mask code, 255 represents the second MSB of the subnet mask code, the second 255 represents the third byte of the subnet mask code, and 0 represents the LSB of the subnet mask code.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-46	Most significant byte of the gateway	0xFD2E	0~255	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the MSB of the gateway address of Ethernet expansion card (EtherNet/IP, Modbus TCP). Example: In the address 192.168.1.1, 192 represents the MSB of the gateway, 168 represents the second MSB of the gateway, 1 represents the third byte of the gateway, and the second 1 represents the LSB of the gateway.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-47	Second most significant byte of the gateway	0xFD2F	0~255	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the second MSB of the gateway address of Ethernet expansion card (EtherNet/IP, Modbus TCP). Example: In the address 192.168.1.1, 192 represents the MSB of the gateway, 168 represents the second MSB of the gateway, 1 represents the third byte of the gateway, and the second 1 represents the LSB of the gateway.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-48	Third byte of the gateway	0xFD30	0~255	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the third byte of the gateway address of Ethernet expansion card (EtherNet/IP, Modbus TCP). Example: In the address 192.168.1.1, 192 represents the MSB of the gateway, 168 represents the second MSB of the gateway, 1 represents the third byte of the gateway, and the second 1 represents the LSB of the gateway.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
FD-49	Least significant byte of the gateway	0xFD31	0~255	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the LSB of the gateway address of Ethernet expansion card (EtherNet/IP, Modbus TCP). Example: In the address 192.168.1.1, 192 represents the MSB of the gateway, 168 represents the second MSB of the gateway, 1 represents the third byte of the gateway, and the second 1 represents the LSB of the gateway.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-58	Ethernet extension card error code	0xFD3A	0~255	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Displays the error code of the Ethernet expansion card (EtherNet/IP, Modbus TCP).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-61	High-order byte of MAC address	0xFD3D	0x0~0xFFFF	0x0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Displays the high-order byte of the MAC address of the Ethernet expansion card (EtherNet/IP, Modbus TCP).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-62	Middle byte of MAC address	0xFD3E	0x0~0xFFFF	0x0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Displays the middle-order byte of the MAC address of the Ethernet expansion card (EtherNet/IP, Modbus TCP).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-63	Low-order byte of MAC address	0xFD3F	0x0~0xFFFF	0x0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description:							

	Displays the low-order byte of the MAC address of the Ethernet expansion card (EtherNet/IP, Modbus TCP).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-92	Slave alias backup	0xFD5C	0~65535	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: EtherCAT slave alias							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FD-94	Communication software version	0xFD5E	0.00~655.35	0.00	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Used to monitor communication software version.							

FP Function Code Management

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FP-00	User password	0x1F00	0~65535	0	Unsigned 16 bit	Real time changes	Patrol user	Effective in real time
	Description: If the user password (FP-00) is set (that is, this parameter is set to a non-zero value), you need to enter the corresponding user password when entering the menu page. If the input is incorrect, the menu cannot be accessed. If the input is correct, the menu can be accessed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FP-01	Parameter initialization	0x1F01	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: No operation 1: Restore default settings (excluding motor 4: Back up current user parameters 501: Restore user parameters from backup							

parameters)
2： Clear records
503： Restore default settings (including motor parameters)

Description：
This parameter is used to select the parameter initialization mode.
0: No action. The AC drive does not perform any operation.
1: Most of the AC drive parameters are restored to factory settings. However, motor parameters, frequency reference decimal (F0-22), maximum frequency (F0-10), frequency upper limit (F0-12), fault records, cumulative running time (F7-09), cumulative power-on time (F7-13), cumulative power consumption (F7-14), and drive unit heatsink temperature (F7-07) are not restored.
2: The fault records, cumulative running time (F7-09), cumulative power-on time (F7-13), and cumulative power consumption (F7-14) are cleared.
4: Current user-set parameters are backed up.
501: Parameters backed up by setting FP-01 to 4 are restored.
503: All AC drive parameters except FP-00, FP-01, and the parameters in group FF are restored to factory settings.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FP-02	Parameter display	0x1F02	Refer to "Value"	63	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value：

Bit	Name	Value
bit0	Group U	0: Hidden 1: Displayed
bit1	Group A	0: Hidden 1: Displayed
bit2	Group B	0: Hidden 1: Displayed
bit3	Group C	0: Hidden 1: Displayed
bit4	Group H	0: Hidden 1: Displayed
bit5	Group L	0: Hidden 1: Displayed

Description：
This parameter is used to determine whether the parameter groups U, A, B, C, H, and L are displayed on the operating panel by each bit.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

FP-03	Display of individualized parameters	0x1F03	Refer to "Value"	111	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	User-defined parameters	0: Hidden 1: Displayed
Tens	User-modified parameters	0: Hidden 1: Displayed
Hundreds	Wrong menu	0: Hidden 1: Displayed

Description:

This parameter is used to determine whether the user-defined parameter group, user-modified parameter group, and error menu are displayed on the operating panel through the ones, tens, and hundreds places.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FP-04	Parameter modification	0x1F04	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: Modification allowed

1: Modification prohibited

Description:

Used to set whether the AC drive parameters can be modified.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FP-06	Used to set monitoring password.	0x1F06	0~65535	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

If the monitoring password is not set (that is, the value of this parameter is not 0), the monitoring permission is automatically obtained.

If the monitoring password is set (that is, the value of this parameter is not 0), you need to enter the monitoring password in FP-09 before obtaining monitoring permission.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

FP-07	Used to set the expert password.	0x1F07	0~65535	1430	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: If the expert password is not set (that is, the value of this parameter is not 0), the expert permission is automatically obtained. If an expert password is set (that is, the value of this parameter is not 0), you need to enter the expert password in FP-09 before you can obtain expert permission.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FP-09	Password input window	0x1F09	0~65535	0	Unsigned 16 bit	Real time changes	Patrol user	Effective in real time
	Description: Used to enter the monitoring password and expert password. Enter the corresponding password to obtain the corresponding permission. If you do not enter the password, it is normal. Normal permission: The AC drive has default permissions, so no related parameter is set. Monitoring password: The parameter for setting the password is FP-06, which is 0 by default. It is not enabled by default and has the lowest permission. Expert password: The parameter for setting the password is FP-07, and the default is ***** , with the highest permission (all parameters visible except the parameter group FF).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FP-10	Current authority level	0x1F0A	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: 1: Monitoring 2: Basic 3: Expert							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FP-17	Industry macro selection	0x1F11	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: No selection 1: Air compressor macro 105: Winding macro (wire drawing machine) 106: Unwinding macro (wire drawing machine)							

	Description: Select the default parameters based on industry. Note: If the AC drive already has a valid parameter macro (that is, FP-18 is not equal to 0), set the new parameter macro after FP-01 = 1 is restored to the default setting. Otherwise, E032.7 parameter macro setting error will be reported.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
FP-18	Current industry application mode	0x1F12	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Value: 0: No selection 1: Air compressor macro 105: Winding macro (wire drawing machine) 106: Unwinding macro (wire drawing machine)							
	Description: Displays current industry application mode.							

A0 Torque Control Parameters

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-00	Speed/Torque control mode	0xA000	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Speed control 1: Torque control							
	Description: Two control modes, speed control and torque control, are available in vector control (FVC or SVC).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-01	Mode A - Torque reference source in torque control (drive torque upper limit source)	0xA001	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: A0-03 1: AI1 3: AI3 4: Pulse reference 6: Min. (AI1, AI2) 7: Max. (AI1, AI2)							

	2：AI2　　5：Communication setting　　Others：F connector
	Description： Used to set the torque reference source. 0: Digital setting (A0-03) The setpoint of A0-03 is used as the source. 1: AI1 The torque in the torque control mode is input by current or voltage signal through the AI1. The torque is calculated according to the preset AI curve. 2: AI2 The torque in the torque control mode is input by current or voltage signal through the AI2. The torque is calculated according to the preset AI curve. 3: AI3 The torque in the torque control mode is input by current or voltage signal through the AI3. The torque is calculated according to the preset AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card. 4: Pulse reference (DI5) The torque in the torque control mode is set through the DI5. The torque is calculated based on the relationship curve between the pulse frequency and running frequency. 5: Communication The torque in torque control mode is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment. Note: For details on the communication address, see the Communication Guide. 6: Min (AI1, AI2) The torque in the torque control mode is the lower value between AI1 and AI2. 7: Max (AI1, AI2) The torque in the torque control mode is the higher value between AI1 and AI2. Others: F connector Read the connector value through setting the parameter No. of a float connector. The value being read is used as the torque in torque control. It is used for extension of common sources. Supplementary explanation: The value 100% corresponds to the A0-03 value when the analog/pulse/communication setting is used as the reference source. For example, if A0-03 is set to 200%, A0-01 selects AI1. When AI1 is set to 50%, the actual reference is equal to 50% x 200%.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-03	Mode A - Torque digital setting in torque control	0xA003	-200.0%~+200.0%	150.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description： Used to set the torque in the torque upper limit mode (mode A). The torque reference uses relative value. The value 100.0% corresponds to the rated motor torque. The value ranges from -200.0% to +200.0%, indicating that the maximum torque of the drive is two times the rated torque of the motor. When the torque reference value is positive, the drive operates in the forward direction. When the torque reference value is							

	negative, the drive operates in the reverse direction.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-04	Mode A– Torque reference filter time (upper limit)	0xA004	0ms~10000ms	0ms	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the torque reference filter time in mode A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-05	Mode A - Maximum positive frequency in torque control	0xA005	0.00Hz~F0-10	50.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the maximum positive frequency in mode A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-06	Mode A - Maximum negative frequency in torque control	0xA006	0.00Hz~F0-10	50.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the maximum negative frequency in mode A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-07	Mode A - Torque rise filter time	0xA007	0.00s~650.00s	0.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the torque reference ramp rise time (relative to rated torque) in mode A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-08	Mode A - Torque drop filter time	0xA008	0.00s~650.00s	0.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the reference ramp drop time (relative to rated torque) in mode A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-10	Torque mode	0xA00A	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

	Value： 0： Torque upper limit mode in speed control (mode A) 1： Torque mode (Mode B)
	Description： Used to select the torque mode. 0: Torque upper limit mode in speed control (mode A) 1: Torque mode (Mode B)

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-11	Mode B - Torque acceleration time gain	0xA00B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value：

0： 100%
1： AI1
2： AI2
3： AI3
4： PULSE setting
5： Communication setting
6： Multi-speed reference
7： Motorized potentiometer
8： PID
Others： F connector

Description：

Used to set the torque reference ramp rise time in mode B.

0: 100%

The torque acceleration time gain is set to 100%.

1: AI1

The torque acceleration time gain is input by current or voltage signal through the AI1. The torque is calculated according to the preset AI curve.

2: AI2

The torque acceleration time gain is input by current or voltage signal through the AI2. The torque is calculated according to the preset AI curve.

3: AI3

The torque acceleration time gain is input by current or voltage signal through the AI3. The torque is calculated according to the preset AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card.

4: Pulse reference (DI5)

The torque acceleration time gain is set through DI5. The frequency is calculated based on the relationship curve between the pulse frequency and running frequency.

5: Communication

The torque acceleration time gain is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment.

6: Multi-speed reference

In multi-speed reference mode, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC.

	7: Motorized potentiometer The torque acceleration time gain is set by the motorized potentiometer module output. 8: PID The torque acceleration time gain is set through PID. For details, see descriptions of the PID function. Others: F connector Read the connector value through setting the parameter No. of a float connector. The value being read is used as the torque in torque control. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-12	Mode B - Torque deceleration time gain	0xA00C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value：

0： 100%
1： AI1
2： AI2
3： AI3
4： PULSE setting
5： Communication setting
6： Multi-speed reference
7： Motorized potentiometer
8： PID
Others： F connector

Description：

Used to set the torque reference ramp down time tuning gain in the torque mode (mode B).

0: 100%

The torque deceleration time gain is set to 100%.

1: AI1

The torque deceleration time gain is input by current or voltage signal through the AI1. The torque is calculated according to the preset AI curve.

2: AI2

The torque deceleration time gain is input by current or voltage signal through the AI2. The torque is calculated according to the preset AI curve.

3: AI3

The torque deceleration time gain is input by current or voltage signal through the AI3. The torque is calculated according to the preset AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card.

4: Pulse reference (DI5)

The torque deceleration time gain is set through DI5. The frequency is calculated based on the relationship curve between the pulse frequency and running frequency.

5: Communication

The torque deceleration time gain is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment.

6: Multi-speed reference

In multi-speed reference mode, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC.

7: Motorized potentiometer

	The torque deceleration time gain is set by the motorized potentiometer module output. 8: PID The torque deceleration time gain is set through PID. For details, see descriptions of the PID function. Others: F connector Read the connector value through setting the parameter No. of a float connector. The value being read is used as the torque in torque control. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-13	Mode B - Torque reference source	0xA00D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: Inactive	4: PULSE setting	7: Motorized potentiometer
1: AI1	5: Communication setting	8: PID
2: AI2	6: Multi-speed reference	Others: F connector
3: AI3		

Description:

Used to set the torque reference source in the torque mode (mode B).

0: Digital setting

Digital setting is used for the torque.

1: AI1

The torque is input by current or voltage signal through the AI1. The torque is calculated according to the preset AI curve.

2: AI2

The torque is input by current or voltage signal through the AI2. The torque is calculated according to the preset AI curve.

3: AI3

The torque is input by current or voltage signal through the AI3. The torque is calculated according to the preset AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card.

4: Pulse reference (DI5)

The torque in speed control mode is set through DI5. The torque is calculated based on the relationship curve between the pulse frequency and running frequency.

5: Communication

The torque is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment.

6: Multi-speed reference

In multi-reference mode, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC.

7: Motorized potentiometer

The torque is set by the motorized potentiometer module output.

8: PID

The torque is set through PID. For details, see descriptions of the PID function.

Others: F connector

	Read the connector value through setting the parameter No. of a float connector. The value being read is used as the torque in torque control. It is used for extension of common sources. Supplementary explanation: The value 100% corresponds to the A0-14 value when the analog/pulse/communication setting is used as the reference source. For example, if A0-14 is set to 200%, A0-13 selects AI1. When AI1 is set to 50%, the actual reference is equal to 50% x 200%.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-14	Mode B - Digital setting of torque reference	0xA00E	-400.0%~+400.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Used to set the torque in torque mode (mode B).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-15	Mode B- Torque control speed limit source	0xA00F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Digital setting 1: Speed channel							
	Description: Used to set the speed limit source in torque mode (mode B). 0: Digital setting Digital setting is used for the speed limit. 1: Speed channel The speed limit is set through the speed channel.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-16	Mode B - Digital setting of speed limit in torque control	0xA010	-100.0%~+100.0%	100.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Indicates the digital setting of speed limit (per-unit value being F0-10) in the torque mode (mode B).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-17	Mode B - Speed limit offset mode	0xA011	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Bidirectional offset 1: Unidirectional offset							

	2：Compatible solution
	Description： Used to select the speed limit offset in the torque mode (mode B). 0: Bidirectional offset Increase the speed limit offset frequency in both forward and reverse directions. 1: Unidirectional offset Increases the speed limit offset frequency only in the reverse direction only. 2: Compatible solution The forward and directional speed limits of the compatible solution are the speed limit plus the speed limit offset frequency.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-18	Mode B - Speed limit offset source	0xA012	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value：

0：Inactive	4：PULSE setting	7：Motorized potentiometer
1：AI1	5：Communication setting	8：PID
2：AI2	6：Multi-speed reference	Others：F connector
3：AI3		

Description：
Used to set the speed limit offset source in mode B.
0: Digital setting
Digital setting is used for the speed limit offset.
1: AI1
The speed limit offset is input by current or voltage signal through AI1. The torque is calculated according to the preset AI curve.
2: AI2
The speed limit offset is input by current or voltage signal through AI2. The torque is calculated according to the preset AI curve.
3: AI3
The speed limit offset is input by current or voltage signal through AI3. The torque is calculated according to the preset AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card.
4: Pulse reference (DI5)
The speed limit offset is set through DI5. The gain is calculated based on the relationship curve between the pulse frequency and running frequency.
5: Communication
The speed limit offset is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment.
6: Multi-speed reference
In multi-reference mode, different combinations of DI terminal states correspond to different reference values. Four multi-

	reference terminals can form 16 states. 7: Motorized potentiometer The speed limit offset is set through the motorized potentiometer module output. 8: PID The speed limit offset is set through PID. For details, see descriptions of the PID function. Others: F connector Read the connector value through setting the parameter No. of a float connector. The value being read is used as the torque in torque control. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-19	Mode B - Speed limit digital setting	0xA013	0.0%~300.0%	5.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the digital setting of speed limit offset in torque mode (mode B).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-20	Mode B - Additional torque reference 1 source	0xA014	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 3: AI3 4: PULSE setting 5: Communication setting 6: Multi-speed reference 7: Motorized potentiometer 8: PID Others: F connector							
	Description: Used to select additional torque 1 source in the speed mode and torque mode (mode B). 0: Digital setting Indicates the digital setting of additional torque. 1: AI1 The additional torque is input by current or voltage signal through the AI1. The torque is calculated according to the preset AI curve. 2: AI2 The additional torque is input by current or voltage signal through the AI2. The torque is calculated according to the preset AI curve. 3: AI3 The additional torque is input by current or voltage signal through the AI3. The torque is calculated according to the preset AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card. 4: Pulse reference (DI5) The additional torque is set through DI5. The gain is calculated based on the relationship curve between the pulse frequency and running frequency.							

	5: Communication The additional torque is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment. 6: Multi-speed reference In multi-reference mode, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC. 7: Motorized potentiometer The additional speed is set by the motorized potentiometer module output. 8: PID The additional torque is set through PID. For details, see descriptions of the PID function. Others: F connector Read the connector value through setting the parameter No. of a float connector. The value being read is used as the torque in torque control. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-21	Mode B - Digital setting of additional torque reference 1	0xA015	-400.0%~+400.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Indicates the digital setting of additional torque 1 in the speed mode and torque mode (mode B).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-22	Mode B - Additional torque reference 2	0xA016	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 3: AI3 4: PULSE setting 5: Communication setting 6: Multi-speed reference 7: Motorized potentiometer 8: PID Others: F connector							
	Description: Used to select additional torque 2 source in the speed mode and torque mode (mode B). 0: 0 The additional torque is 0. 1: AI1 The additional torque is input by current or voltage signal through the AI1. The torque is calculated according to the preset AI curve. 2: AI2 The additional torque is input by current or voltage signal through the AI2. The torque is calculated according to the preset AI curve.							

	3: AI3 The additional torque is input by current or voltage signal through the AI3. The torque is calculated according to the preset AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card. 4: Pulse reference (DI5) The additional torque is set through DI5. The gain is calculated based on the relationship curve between the pulse frequency and running frequency. 5: Communication The additional torque is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment. 6: Multi-speed reference In multi-reference mode, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC. 7: Motorized potentiometer The additional speed is set by the motorized potentiometer module output. 8: PID The additional torque is set through PID. For details, see descriptions of the PID function. Others: F connector Read the connector value through setting the parameter No. of a float connector. The value being read is used as the torque in torque control. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-23	Mode B - Enable additional torque reference 2 input	0xA017	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value： 0： Inhibited 1： Enabled 3： DI1 4： DI2 5： DI3 6： DI4 7： DI5 8： DI6 9： DI7 10： DI8 11： DI9 12： DI10 13： DI11 14： DI12 15： DI13 16： DI14 17： DI15 18： DI16 Others： B connector							
	Description： Used to enable the additional torque 2 input in the speed mode and torque mode (mode B). When not enabled, the additional torque 2 is inactive. 0: Disable additional torque reference 2 1: Enable Additional torque setting 2 3 to 18: Enabled when DI is active and disabled when DI is inactive. Others: B connector Its output function is the signal or function state of the parameter to which the connector is connected.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
A0-24	Mode B - Torque filter time	0xA018	0ms~10000ms	0ms	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The torque reference filter time in the torque mode (mode B) can be viewed in the function guide.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-25	Mode B - Torque acceleration time	0xA019	0.000s~60.000s	0.000s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The torque reference ramp up time (relative to rated torque) in the torque mode (mode B) can be viewed in the function guide.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-26	Mode B - Torque deceleration time	0xA01A	0.000s~60.000s	0.000s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The torque reference ramp down time (relative to the rated torque) in the torque mode (mode B) can be viewed in the function guide.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A0-27	Mode B - Torque reference gain	0xA01B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: 100% 1: AI1 2: AI2 3: AI3 4: PULSE setting 5: Communication setting 6: Multi-speed reference 7: Motorized potentiometer 8: PID Others: F connector							
	Description: Used to set the torque reference gain coefficient in torque mode (mode B). 0: 100% The torque reference gain is set to 100%. 1: AI1 The torque reference gain is input by voltage or current signal through AI1. The corresponding torque value is calculated through the preset AI curve. 2: AI2 The torque reference gain is input by current or voltage signal through the AI2. The frequency is calculated according to the preset AI curve.							

	3: AI3 The torque reference gain is input by current or voltage signal through the AI3. The frequency is calculated according to the preset AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card. 4: The Pulse reference (DI5) The torque reference gain is set through DI5. The frequency is calculated based on the relationship curve between the pulse frequency and running frequency. 5: Communication The torque reference gain is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment. 6: Multi-speed reference In multi-reference mode, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC. 7: Motorized potentiometer The torque reference gain is set by the motorized potentiometer module output. 8: PID The torque reference gain is set through PID. For details, see descriptions of the PID function. Others: F connector Read the connector value through setting the parameter No. of a float connector. The value being read is used as the torque in torque control. It is used for extension of common sources.

A1 Virtual DI/DO

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-00	VDI1 function	0xA100	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: No function 1: Forward run (IN1) 2: Reverse run (IN2) 3: Three-wire operation control (IN3) 4: Forward jog (FJOG) 5: Reverse jog (RJOG) 6: Terminal UP 7: Terminal DOWN 8: Coast to stop 24: Wobble pause 25: Counter input 26: Counter reset 27: Length count input 28: Length reset 29: Torque control inhibited 30: Pulse frequency input (only DI5 active) 31: Reserved 32: Immediate DC braking 48: External stop terminal 2 49: Decelerate to DC braking 50: Clear the current running time 51: Reserved 52: Reverse run inhibited 64: Positive limit switch 65: Negative limit switch 66: Water-cooling fault input 67: Low-liquid fault input 70: Control channel selection							

	9：Fault reset (RESET) 10：Pause 11：External fault normally open (NO) input 12：Multi-reference terminal 1 13：Multi-reference terminal 2 14：Multi-reference terminal 3 15：Multi-reference terminal 4 16：Terminal 1 for acceleration/deceleration selection 17：Terminal 2 for acceleration/deceleration selection 18：Frequency reference switchover 19：UP and DOWN setting clear 20：Control command switchover terminal 1 21：Acceleration/Deceleration inhibited 22：PID pause 23：Simple PLC status reset	33：External fault normally closed (NC) input 34：Frequency modification enabled 35：PID operation direction reversal 36：External stop terminal 1 37：Control command switchover terminal 2 38：PID integral pause 39：Switchover between main frequency reference X and preset frequency 40：Switchover between auxiliary frequency reference Y and preset frequency 41：Motor selection terminal 1 42：Reserved 43：PID parameter switchover 44：User-defined fault 1 45：User-defined fault 2 46：Speed control/Torque control selection 47：Emergency stop	71：Setting channel selection (Reserved) 72：Terminal module A/B selection 73：Start selection BIT0 74：Start selection BIT1 75：Control command switchover terminal 3 76：Motor selection terminal 2 77：Operation enable 78：Forward run allowed 79：Reverse run allowed 80：RFG input cleared 81：Reserved 83：Reserved 86：Open circuit detection (wire drawing machine)
	Description： 0: No function The DI terminal has no function. 1: Forward run (IN1) The drive operates forwardly. FWD indicates forward running. In two-wire mode 1 (F4-11 = 0), activating DI function 1 triggers forward running. In two-wire operation mode 2 (F4-11 = 1), activating DI function 1 triggers a running command. 2: Reverse run (IN2) The drive operates reversely. REV indicates reverse running. In two-wire mode 1 (F4-11 = 0), activating DI function 2 triggers reverse running. In two-wire mode 2 (F4-11 = 1), activating DI function 2 triggers forward/reverse running. 3: Three-wire operation control (IN3) The drive operates in three-wire control mode. To set the running command source to the terminal, set F4-11 (terminal command mode) to 2 (three-wire mode 1) or 3 (three-wire mode 2), and set the DI to function 3. The three-wire control modes include three-wire mode 1 and three-wire mode 2. 4: Forward jog (FJOG) The drive jogs forwardly. In the jogging mode, the drive runs at the frequency set by F8-00 (Jogging frequency), which is generally used for maintenance and commissioning of the equipment on site. 5: Reverse run (RJOG) The drive jogs reversely. In the jogging mode, the drive runs at the frequency set by F8-00 (Jogging frequency), which is		

	generally used for maintenance and commissioning of the equipment on site. 6: Terminal UP Used to modify the frequency increase command. Activating the terminal is equivalent to pressing and holding the increment key. Deactivating the terminal is equivalent to releasing the increment key. 7: Terminal DOWN Used to modify the frequency decrease command. Activating the terminal is equivalent to pressing and holding the decrement key. Deactivating the terminal is equivalent to releasing the decrement key. 8: Coast to stop Once the drive receives a stop command, it immediately stops output and the load then coasts to stop based on the mechanical inertia. The AC drive stops output to shut down. At this time, the power supply of the motor is cut off and the driving system is in the free braking state. This is also known as inertia stop because the stop time is determined by the inertia of the driving system. 9: Fault reset (RESET). Activating the terminal resets the AC drive upon a fault. This function is the same as that of the STOP/RES key on the operating panel. This function allows you to perform a reset upon the fault remotely. 10: Operation pause This function is valid only when F0-02 is set to 1 (terminal). After this function is assigned to the terminal, the drive decelerates to stop with all the operating parameters memorized (such as PLC parameters, wobble frequency, and PID parameters). When the terminal is inactive, the drive resumes to the status before decelerating to stop. 11: NO input of external fault The drive reports E015.1 upon receiving an external signal. 12-15: Multi-reference terminals 1–4 The drive selects the multi-reference as the main frequency. Sixteen speeds or sixteen references can be set through combinations of sixteen states of these four terminals. It is suitable for applications where the operating frequency of the drive does not require continuous adjustment, and only several frequency values need to be used. 16 and 17: Acceleration/Deceleration selection terminals 1 and 2 The acceleration time indicates the time required by the AC drive to accelerate from 0 Hz to the acceleration/deceleration base frequency (F0-25). The deceleration time indicates the time required by the AC drive to decelerate from the acceleration/deceleration base frequency (F0-25) to 0 Hz. Four groups of acceleration/deceleration time can be selected through combinations of four states of these two terminals. For example, if DI1 is assigned with function 16 and DI2 is assigned with function 17, the active states of DI2 and DI1 can be used to indicate the following groups acceleration/deceleration time: [0, 0] Indicates the first group of the acceleration/deceleration time. [0, 1] Indicates the second group of the acceleration/deceleration time. [1, 0] Indicates the third group of the acceleration/deceleration time. [1, 1] Indicates the fourth group of the acceleration/deceleration time. 18: Frequency source switchover This function enables selection of different frequency reference input mode. The frequency reference is set through F0-07 (Frequency reference superposition). 19: UP and DOWN setting clear Activating the terminal clears the frequency that is set by the increment or decrement key on the operating panel or the terminal functioning as UP/DOWN keys and resumes the frequency reference to the value specified by F0-08. 20: Command source switchover terminal 1

	When the running command is set through the terminal (F0-02=1) and this terminal is active, the control mode can be switched between the terminal and the operating panel. When the running command is set through communication (F0-02=2) and this terminal is active, the control mode can be switched between the communication and the operating panel. 21: Acceleration/Deceleration inhibited The terminal is used to maintain the current running frequency of the AC drive regardless of changes of the external input frequency (unless a stop command is received). 22: PID pause PID is invalid temporarily. The AC drive maintains the current output frequency without supporting PID adjustment of the frequency source. 23: Simple PLC status reset Used to restore the AC drive to the initial state of the simple PLC. 24: Wobble pause In the wobble process, when this terminal is active, the wobble function pauses (the AC drive outputs at the center frequency). 25: Counter input In the count process, when the terminal is active, a count pulse is input. 26: Counter reset In the count process, when the terminal is active, the counter status is cleared. 27: Length count input In the fixed length process, when the terminal is active, the length count is input. 28: Length reset In the fixed length process, when the terminal is active, the length is cleared. 29: Torque control prohibited When the terminal is active, the AC drive switches from the torque control mode to the speed control mode. When the terminal is inactive, the AC drive switches back to the torque control mode. 30: Pulse input When DI5 is used as the pulse input terminal, DI5 must be allocated with this function. 31: Reserved 32: Immediate DC braking The drive directly switches to the DC braking state. DC braking indicates that the drive outputs direct current to the stator winding of the asynchronous motor to form a static magnetic field, enabling the motor to brake with energy consumption. In this state, the rotor cuts the static magnetic field to generate braking torque, which stops the motor quickly. 33: NC input of external fault The drive reports E015.2 upon receiving an external signal. 34: Frequency modification enabled When the terminal is active, the frequency can be modified. When the terminal is inactive, the frequency cannot be modified. 35: PID action direction reversal The PID action direction is reversed to the direction set by FA-03 (PID action direction). 36: External stop terminal 1 The terminal is used to stop the drive regardless of the value of F0-02, which functions the same as the STOP/RES key on the operating panel. 37: Command source switchover terminal 2

	This function enables the switchover between the terminal control and the communication control. If terminal control is used, the system switches to communication control when the terminal is active. If communication control is used, the system switches to terminal control when the terminal is active. 38: PID integral pause The integral adjustment function pauses when the terminal is active. However, the proportional and derivative adjustment functions are still valid. 39: Switchover between main frequency reference X and preset frequency This function is used to switch from main frequency reference X to F0-08 (Preset frequency). 40: Switchover between auxiliary frequency reference Y and preset frequency This function is used to switch from auxiliary frequency reference Y to F0-08 (Preset frequency). 41, 76: Motor selection terminals 1 to 4 Used to select motor parameters. For example, when DI1 is assigned with function 41 and DI2 is assigned with function 76, motor 1 applies when DI1 and DI2 are inactive; motor 2 applies when DI1 is active and DI2 is inactive; motor 3 applies when DI1 is inactive and DI2 is active; motor 4 applies when DI1 and DI2 are both active. 42: Reserved 43: PID parameter switchover If PID parameters are switched over through DI (FA-18 = 1), the following conditions are true. When the terminal is inactive, the PID parameters are FA-05 to FA-07 (proportional gain Kp1, integral time Ti1, and derivative time Td1). When the terminal is active, the PID parameters are FA-15 to FA-17 (PID gain Kp2, integral time Ti2, and derivative time Td2). 44: User-defined fault 1 When the AC drive reports E027.1, the AC drive will take measures according to the value of F9-49 (Fault protection action selection). 45: User-defined fault 2 When the AC drive reports E027.2, the AC drive will take measures according to the value of F9-49 (Fault protection action selection). 46: Switchover between speed control and torque control The terminal is used to switch between the speed control mode and the torque control mode. If A0-00 (speed/torque control mode) is set to 0, the torque control mode is used when the terminal is active, and the speed control mode is used when the terminal is inactive. If A0-00 (speed/torque control mode) is set to 1, the speed control mode is used when the terminal is active, and the torque control mode is used when the terminal is inactive. 47: Emergency stop When the system is in the emergency state, the drive decelerates according to F8-55 (Deceleration time for emergency stop) or according to the minimum unit time when the deceleration time for emergency stop is 0s in the V/f control mode. The input terminal does not need to be in the closed state continuously. Even if it is closed only for a moment, an emergency stop will occur immediately. Different from general deceleration time, the emergency stop input terminal is opened after the deceleration time for emergency stop expires. In this case, if the operation signal is still active, the drive will not restart. To restart the drive, disconnect the operation terminal and input the operation command again. 48: External stop terminal 2 The terminal is used to make the AC drive decelerate to stop in any control mode (operating panel, terminal, or communication control). In this case, the deceleration time is fixed to the value of F8-08 (deceleration time 4). 49: Decelerate to DC braking The AC drive decelerates to F6-11 first and then enters the DC braking state. 50: Clear the current running time

	The terminal is used to clear the current running time (U0-26) of the AC drive. When the terminal is active, the current running time of the drive is not cleared. 51: Two-wire/Three-wire control switchover The terminal is used to switch between two-wire control and three-wire control. When F4-11 is set to 0 (two-wire mode 1) and the terminal is active, the drive switches to three-wire mode 1. When the terminal is inactive, two-wire mode 1 is used. When F4-11 is set to 1 (two-wire mode 2) and the terminal is active, the drive switches to three-wire mode 2. When F4-11 is set to 2 (three-wire mode 1) and the terminal is active, the drive switches to two-wire mode 1. When F4-11 is set to 3 (three-wire mode 2) and the terminal is active, the drive switches to two-wire mode 2. 52: Reverse run inhibited When the terminal is active, even if the reverse frequency is set, the actual frequency of the AC drive is fixed to 0. This function is the same as F8-13 (Reverse frequency inhibited). 64: Positive limit switch 65: Negative limit switch 66: Water-cooling fault input When the external signal is sent to the drive, E064.1 can be reported when this terminal is enabled. 67: Low liquid fault input When the external signal is sent to the drive and the terminal is active, A066.1 (thousands of F9-50 = 2) or E066.1 (thousands of F9-50 = 0) is reported. 68 and 69: Reserved 70: Control channel selection Select two groups of user-defined command channels. 0 represents channel 1 and 1 represents channel 2. 71: Setting channel selection (reserved) 72: Terminal module A/B selection 0 represents module A and 1 represents module B. 73 to 74: Start selection (BIT0/bit1) Used to select the start mode. For example, if DI1 and DI2 are assigned with functions 73 and 74, respectively, direct start is selected when both DI1 and DI2 are inactive; flying start is selected when DI1 is active but DI2 is inactive; DC braking start is selected when DI1 is inactive but DI2 is active; and the last start mode is selected when both DI1 and DI2 are active. 75: Command source switchover terminal 3 This function enables the switchover between terminal control and communication control. 77: Operation enable When the terminal function is high-level triggered, operation is allowed. Otherwise, operation is not allowed or the drive stops as defined by AA-09. 78: Forward run allowed When the terminal function is high level-triggered, the frequency reference can be positive. 79: Reverse run allowed When the terminal function is high level-triggered, the frequency reference can be negative. 80: RFG input clear When the terminal function is low level-triggered, the target reference is cleared. 86: Open circuit detection (wire drawing machine) After the AC drive is started and the time set by A7-32 (Breakage detection time for startup delay) expires, detection on the DI status starts. If the DI is active, the AC drive reports E031.2.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-01	VDI2 function	0xA101	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: Same as"A1-00"							
	Description: Same as"A1-00"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-02	VDI3 function	0xA102	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: Same as"A1-01"							
	Description: Same as"A1-01"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-03	VDI4 function	0xA103	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: Same as"A1-02"							
	Description: Same as"A1-02"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-04	VDI5 function	0xA104	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: Same as"A1-03"							
	Description: Same as"A1-03"							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
A1-05	VDI active state source	0xA105	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
Ones	VDI1	0: VDO1 state 1: A1-06 2: DI1 state 3: Communication value (F4-50 DiComm communication data bit10) 4: AI1 5: Reserved
Tens	VDI2	0: VDO2 state 1: A1-06 2: DI2 state 3: Communication value (F4-50 DiComm communication data bit11) 4: AI2 5: Reserved
Hundreds	VDI3	0: VDO3 state 1: A1-06 2: The status of DI3 determines whether VDI is valid 3: Communication value (F4-50 DiComm communication data bit12) 4: AI3 5: Reserved
Thousands	VDI4	0: VDO4 state 1: A1-06 2: DI4 state 3: Communication value (F4-50 DiComm communication data bit13) 4: Reserved 5: Reserved
Ten thousands	VDI5	0: VDO5 state 1: A1-06 2: DI5 state 3: Communication value (F4-50 DiComm communication data bit14) 4: Reserved 5: Reserved

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-06	VDI state	0xA106	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	VDI1	0: Inactive 1: Active
Tens	VDI2	0: Inactive 1: Active
Hundreds	VDI3	0: Inactive 1: Active
Thousands	VDI4	0: Inactive 1: Active
Ten thousands	VDI5	0: Inactive 1: Active

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-07	AI1 (used as DI) function	0xA107	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: No function
1: Forward run (IN1)
2: Reverse run (IN2)
3: Three-wire operation control (IN3)
4: Forward jog (FJOG)
5: Reverse jog (RJOG)
6: Terminal UP
7: Terminal DOWN
8: Coast to stop
9: Fault reset (RESET)
10: Pause
11: External fault normally open (NO) input
12: Multi-reference terminal 1
13: Multi-reference terminal 2
14: Multi-reference terminal 3
15: Multi-reference terminal 4
16: Terminal 1 for acceleration/deceleration selection
17: Terminal 2 for acceleration/deceleration
23: Simple PLC status reset
24: Wobble pause
25: Counter input
26: Counter reset
27: Length count input
28: Length reset
29: Torque control inhibited
30: Pulse frequency input (only DI5 active)
31: Reserved
32: Immediate DC braking
33: External fault normally closed (NC) input
34: Frequency modification enabled
35: PID operation direction reversal
36: External stop terminal 1
37: Control command switchover terminal 2
38: PID integral pause
39: Switchover between main frequency reference X and preset
46: Speed control/Torque control selection
47: Emergency stop
48: External stop terminal 2
49: Decelerate to DC braking
50: Clear the current running time
51: Reserved
52: Reverse run inhibited
64: Positive limit switch
65: Negative limit switch
66: Water-cooling fault input
67: Low-liquid fault input
70: Control channel selection
71: Setting channel selection (Reserved)
72: Terminal module A/B selection
73: Start selection BIT0
74: Start selection BIT1
75: Control command switchover terminal 3
76: Motor selection terminal 2
77: Operation enable

	selection 18：Frequency reference switchover 19：UP and DOWN setting clear 20：Control command switchover terminal 1 21：Acceleration/Deceleration inhibited 22：PID pause	frequency 40：Switchover between auxiliary frequency reference Y and preset frequency 41：Motor selection terminal 1 42：Reserved 43：PID parameter switchover 44：User-defined fault 1 45：User-defined fault 2	78：Forward run allowed 79：Reverse run allowed 80：RFG input cleared 86：Open circuit detection (wire drawing machine)
	Description： 0: No function The DI terminal has no function. 1: Forward run (IN1) The drive operates forwardly. FWD indicates forward running. In two-wire mode 1 (F4-11 = 0), activating DI function 1 triggers forward running. In two-wire operation mode 2 (F4-11 = 1), activating DI function 1 triggers a running command. 2: Reverse run (IN2) The drive operates reversely. REV indicates reverse running. In two-wire mode 1 (F4-11 = 0), activating DI function 2 triggers reverse running. In two-wire mode 2 (F4-11 = 1), activating DI function 2 triggers forward/reverse running. 3: Three-wire operation control (IN3) The drive operates in three-wire control mode. To set the running command source to the terminal, set F4-11 (terminal command mode) to 2 (three-wire mode 1) or 3 (three-wire mode 2), and set the DI to function 3. The three-wire control modes include three-wire mode 1 and three-wire mode 2. 4: Forward jog (FJOG) The drive jogs forwardly. In the jogging mode, the drive runs at the frequency set by F8-00 (Jogging frequency), which is generally used for maintenance and commissioning of the equipment on site. 5: Reverse run (RJOG) The drive jogs reversely. In the jogging mode, the drive runs at the frequency set by F8-00 (Jogging frequency), which is generally used for maintenance and commissioning of the equipment on site. 6: Terminal UP Used to modify the frequency increase command. Activating the terminal is equivalent to pressing and holding the increment key. Deactivating the terminal is equivalent to releasing the increment key. 7: Terminal DOWN Used to modify the frequency decrease command. Activating the terminal is equivalent to pressing and holding the decrement key. Deactivating the terminal is equivalent to releasing the decrement key. 8: Coast to stop Once the drive receives a stop command, it immediately stops output and the load then coasts to stop based on the mechanical inertia. The AC drive stops output to shut down. At this time, the power supply of the motor is cut off and the driving system is in the free braking state. This is also known as inertia stop because the stop time is determined by the inertia of the driving system. 9: Fault reset (RESET). Activating the terminal resets the AC drive upon a fault. This function is the same as that of the STOP/RES key on the operating panel. This function allows you to perform a reset upon the fault remotely.		

	10: Operation pause This function is valid only when F0-02 is set to 1 (terminal). After this function is assigned to the terminal, the drive decelerates to stop with all the operating parameters memorized (such as PLC parameters, wobble frequency, and PID parameters). When the terminal is inactive, the drive resumes to the status before decelerating to stop. 11: NO input of external fault The drive reports E015.1 upon receiving an external signal. 12-15: Multi-reference terminals 1–4 The drive selects the multi-reference as the main frequency. Sixteen speeds or sixteen references can be set through combinations of sixteen states of these four terminals. It is suitable for applications where the operating frequency of the drive does not require continuous adjustment, and only several frequency values need to be used. 16 and 17: Acceleration/Deceleration selection terminals 1 and 2 The acceleration time indicates the time required by the AC drive to accelerate from 0 Hz to the acceleration/deceleration base frequency (F0-25). The deceleration time indicates the time required by the AC drive to decelerate from the acceleration/deceleration base frequency (F0-25) to 0 Hz. Four groups of acceleration/deceleration time can be selected through combinations of four states of these two terminals. For example, if DI1 is assigned with function 16 and DI2 is assigned with function 17, the active states of DI2 and DI1 can be used to indicate the following groups acceleration/deceleration time: [0, 0] Indicates the first group of the acceleration/deceleration time. [0, 1] Indicates the second group of the acceleration/deceleration time. [1, 0] Indicates the third group of the acceleration/deceleration time. [1, 1] Indicates the fourth group of the acceleration/deceleration time. 18: Frequency source switchover This function enables selection of different frequency reference input mode. The frequency reference is set through F0-07 (Frequency reference superposition). 19: UP and DOWN setting clear Activating the terminal clears the frequency that is set by the increment or decrement key on the operating panel or the terminal functioning as UP/DOWN keys and resumes the frequency reference to the value specified by F0-08. 20: Command source switchover terminal 1 When the running command is set through the terminal (F0-02=1) and this terminal is active, the control mode can be switched between the terminal and the operating panel. When the running command is set through communication (F0-02=2) and this terminal is active, the control mode can be switched between the communication and the operating panel. 21: Acceleration/Deceleration inhibited The terminal is used to maintain the current running frequency of the AC drive regardless of changes of the external input frequency (unless a stop command is received). 22: PID pause PID is invalid temporarily. The AC drive maintains the current output frequency without supporting PID adjustment of the frequency source. 23: Simple PLC status reset Used to restore the AC drive to the initial state of the simple PLC. 24: Wobble pause In the wobble process, when this terminal is active, the wobble function pauses (the AC drive outputs at the center frequency). 25: Counter input

	In the count process, when the terminal is active, a count pulse is input. 26: Counter reset In the count process, when the terminal is active, the counter status is cleared. 27: Length count input In the fixed length process, when the terminal is active, the length count is input. 28: Length reset In the fixed length process, when the terminal is active, the length is cleared. 29: Torque control prohibited When the terminal is active, the AC drive switches from the torque control mode to the speed control mode. When the terminal is inactive, the AC drive switches back to the torque control mode. 30: Pulse input When DI5 is used as the pulse input terminal, DI5 must be allocated with this function. 31: Reserved 32: Immediate DC braking The drive directly switches to the DC braking state. DC braking indicates that the drive outputs direct current to the stator winding of the asynchronous motor to form a static magnetic field, enabling the motor to brake with energy consumption. In this state, the rotor cuts the static magnetic field to generate braking torque, which stops the motor quickly. 33: NC input of external fault The drive reports E015.2 upon receiving an external signal. 34: Frequency modification enabled When the terminal is active, the frequency can be modified. When the terminal is inactive, the frequency cannot be modified. 35: PID action direction reversal The PID action direction is reversed to the direction set by FA-03 (PID action direction). 36: External stop terminal 1 The terminal is used to stop the drive regardless of the value of F0-02, which functions the same as the STOP/RES key on the operating panel. 37: Command source switchover terminal 2 This function enables the switchover between the terminal control and the communication control. If terminal control is used, the system switches to communication control when the terminal is active. If communication control is used, the system switches to terminal control when the terminal is active. 38: PID integral pause The integral adjustment function pauses when the terminal is active. However, the proportional and derivative adjustment functions are still valid. 39: Switchover between main frequency reference X and preset frequency This function is used to switch from main frequency reference X to F0-08 (Preset frequency). 40: Switchover between auxiliary frequency reference Y and preset frequency This function is used to switch from auxiliary frequency reference Y to F0-08 (Preset frequency). 41, 76: Motor selection terminals 1 to 4 Used to select motor parameters. For example, when DI1 is assigned with function 41 and DI2 is assigned with function 76, motor 1 applies when DI1 and DI2 are inactive; motor 2 applies when DI1 is active and DI2 is inactive; motor 3 applies when DI1 is inactive and DI2 is active; motor 4 applies when DI1 and DI2 are both active. 42: Reserved

	43: PID parameter switchover If PID parameters are switched over through DI (FA-18 = 1), the following conditions are true. When the terminal is inactive, the PID parameters are FA-05 to FA-07 (proportional gain Kp1, integral time Ti1, and derivative time Td1). When the terminal is active, the PID parameters are FA-15 to FA-17 (PID gain Kp2, integral time Ti2, and derivative time Td2). 44: User-defined fault 1 When the AC drive reports E027.1, the AC drive will take measures according to the value of F9-49 (Fault protection action selection). 45: User-defined fault 2 When the AC drive reports E027.2, the AC drive will take measures according to the value of F9-49 (Fault protection action selection). 46: Switchover between speed control and torque control The terminal is used to switch between the speed control mode and the torque control mode. If A0-00 (speed/torque control mode) is set to 0, the torque control mode is used when the terminal is active, and the speed control mode is used when the terminal is inactive. If A0-00 (speed/torque control mode) is set to 1, the speed control mode is used when the terminal is active, and the torque control mode is used when the terminal is inactive. 47: Emergency stop When the system is in the emergency state, the drive decelerates according to F8-55 (Deceleration time for emergency stop) or according to the minimum unit time when the deceleration time for emergency stop is 0s in the V/f control mode. The input terminal does not need to be in the closed state continuously. Even if it is closed only for a moment, an emergency stop will occur immediately. Different from general deceleration time, the emergency stop input terminal is opened after the deceleration time for emergency stop expires. In this case, if the operation signal is still active, the drive will not restart. To restart the drive, disconnect the operation terminal and input the operation command again. 48: External stop terminal 2 The terminal is used to make the AC drive decelerate to stop in any control mode (operating panel, terminal, or communication control). In this case, the deceleration time is fixed to the value of F8-08 (deceleration time 4). 49: Decelerate to DC braking The AC drive decelerates to F6-11 first and then enters the DC braking state. 50: Clear the current running time The terminal is used to clear the current running time (U0-26) of the AC drive. When the terminal is active, the current running time of the drive is not cleared. 51: Two-wire/Three-wire control switchover The terminal is used to switch between two-wire control and three-wire control. When F4-11 is set to 0 (two-wire mode 1) and the terminal is active, the drive switches to three-wire mode 1. When the terminal is inactive, two-wire mode 1 is used. When F4-11 is set to 1 (two-wire mode 2) and the terminal is active, the drive switches to three-wire mode 2. When F4-11 is set to 2 (three-wire mode 1) and the terminal is active, the drive switches to two-wire mode 1. When F4-11 is set to 3 (three-wire mode 2) and the terminal is active, the drive switches to two-wire mode 2. 52: Reverse run inhibited When the terminal is active, even if the reverse frequency is set, the actual frequency of the AC drive is fixed to 0. This function is the same as F8-13 (Reverse frequency inhibited). 64: Positive limit switch 65: Negative limit switch 66: Water-cooling fault input When the external signal is sent to the drive, E064.1 can be reported when this terminal is enabled.

	67: Low liquid fault input When the external signal is sent to the drive and the terminal is active, A066.1 (thousands of F9-50 = 2) or E066.1 (thousands of F9-50 = 0) is reported. 68 and 69: Reserved 70: Control channel selection Select two groups of user-defined command channels. 0 represents channel 1 and 1 represents channel 2. 71: Setting channel selection (reserved) 72: Terminal module A/B selection 0 represents module A and 1 represents module B. 73 to 74: Start selection (BIT0/bit1) Used to select the start mode. For example, if DI1 and DI2 are assigned with functions 73 and 74, respectively, direct start is selected when both DI1 and DI2 are inactive; flying start is selected when DI1 is active but DI2 is inactive; DC braking start is selected when DI1 is inactive but DI2 is active; and the last start mode is selected when both DI1 and DI2 are active. 75: Command source switchover terminal 3 This function enables the switchover between terminal control and communication control. 77: Operation enable When the terminal function is high-level triggered, operation is allowed. Otherwise, operation is not allowed or the drive stops as defined by AA-09. 78: Forward run allowed When the terminal function is high level-triggered, the frequency reference can be positive. 79: Reverse run allowed When the terminal function is high level-triggered, the frequency reference can be negative. 80: RFG input clear When the terminal function is low level-triggered, the target reference is cleared. 86: Open circuit detection (wire drawing machine) After the AC drive is started and the time set by A7-32 (Breakage detection time for startup delay) expires, detection on the DI status starts. If the DI is active, the AC drive reports E031.2.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-08	AI2 (used as DI) function	0xA108	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: Same as"A1-07"							
	Description: Same as"A1-07"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-09	AI3 (used as DI) function	0xA109	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

	Value: Same as"A1-08"
	Description: Same as"A1-08"

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-10	AI (used as DI) active mode	0xA10A	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
Ones	AI1	0: Active low 1: Active high
Tens	AI2	0: Active low 1: Active high
Hundreds	AI3	0: Active low 1: Active high

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-11	VDO1 function	0xA10B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: No output
1: Drive operating
2: Fault output
3: Frequency level detection (FDT1) output
4: Frequency reached
5: Operating at zero speed (OFF at stop)
6: Motor overload pre-alarm
7: Drive overload pre-alarm
8: Set counting value reached
9: Designated counting value reached
10: Length reached
11: Simple PLC cycle completed
12: Accumulative operating time reached
15: Ready to RUN
16: AI1 > AI2
17: Frequency upper limit reached
18: Frequency lower limit reached (OFF at stop)
19: Undervoltage status output
20: Communication setting
21: Brake output
22: Reserved
23: Operating at zero speed 2 (ON at stop)
24: Accumulative power-on time reached
25: Frequency level detection (FDT2) output
26: Frequency 1 reached
30: Timing reached
31: AI1 input limit exceeded
32: Load loss
33: Reverse running
34: Zero current status
35: Module temperature reached
36: Output current limit exceeded
37: Frequency lower limit reached (ON at stop)
38: Alarm output (all faults)
39: Motor overtemperature output
40: Current operating time reached
41: Fault output (undervoltage excluded)
42: STO output

	13：Wobble frequency limited	27：Frequency 2 reached	43：Operation output limited
	14：Torque limited	28：Current 1 reached	Others：B connector
		29：Current 2 reached	

Description：

0: No output

The output terminal has no function.

1: Running

When the AC drive is running with output frequency (can be 0), the terminal outputs an active signal.

2: Fault output

The DO outputs an active signal when the AC drive stops due to a fault.

3: Frequency level detection 1 (FDT1) output

When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the FDT hysteresis value (product of F8-19 and F8-20), the active signal is canceled.

4: Frequency reached

When the running frequency of the AC drive is within a certain range (target frequency±F8-21 x maximum frequency), the DO outputs an active signal.

5: Operating at zero speed (OFF at stop)

When the output frequency is 0 during AC drive running, an active signal is output. When the AC drive is in the stop state, the signal is inactive.

6: Motor overload pre-alarm

The AC drive judges whether the motor load exceeds the overload pre-alarm threshold according to the overload pre-alarm coefficient (F9-02) before performing the protection action. If the pre-alarm threshold is exceeded, this terminal outputs an active signal. (For calculation of the alarm threshold, see the description of motor overload protection.)

7: AC drive overload pre-alarm

This output function provides an active signal 10s before the AC drive triggers overload protection.

8: Set counting value reached

An active signal will be output when the counting value reaches the value of Fb-08.

9: Designated counting value reached

An active signal will be output when the counting value reaches the value of Fb-09.

10: Length reached

The terminal outputs an active signal when the detected actual length exceeds the value of Fb-05.

11: Simple PLC cycle completed

The terminal outputs a pulse signal with width of 250 ms when the simple PLC completes one cycle.

12: Accumulative operating time reached

The AC drive compares the cumulative running time and the time set by F8-17 and F8-75. If the former is greater than or equal to the latter, the terminal outputs an active signal.

13: Frequency limited

The terminal outputs an active signal when the frequency reference exceeds the frequency upper or lower limit, and the output frequency of AC drive reaches the upper or lower limit.

14: Torque limited

The terminal outputs an active signal when the output torque of AC drive reaches the toque limit in speed control mode.

	15: Ready to RUN The terminal outputs an active signal when the AC drive is ready for running without any fault after power-on. 16: AI1 > AI2 The terminal outputs an active signal when the value input through AI1 is higher than AI2. 17: Frequency upper limit reached The terminal outputs an active signal when the running frequency reaches the frequency upper limit (F0-12). 18: Frequency lower limit reach (no output at stop) If F8-14 (running mode when frequency reference is below lower limit) is set to 1 (stop), the DO outputs an inactive signal no matter whether the running frequency reaches the frequency lower limit. When F8-14 (Running mode when frequency reference < frequency lower limit) is set to 0 (run at the frequency lower limit) or 2 (run at zero speed) and the running frequency reaches the lower limit, the terminal outputs an active signal. 19: Undervoltage state The terminal outputs an active signal when undervoltage occurs on the AC drive. 20: Communication The communication address 0x2001 determines whether the terminal is active or not. 21: Brake output An active signal will be sent when the brake is turned on. An inactive signal will be sent when the brake is turned off. 22: Reserved 23: Operating at zero speed 2 (ON at stop) When the output frequency is 0 during running, an active signal is output. The signal is still active when the AC drive stops. 24: Accumulative power-on time reached The AC drive compares the cumulative running time and the time set by F8-16 and F8-74. If the former is greater than or equal to the latter, the terminal outputs an active signal. 25: Frequency level detection FDT2 output (FDT2) When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the frequency detection hysteresis value (product of F8-28 and F8-29), the active signal is canceled. 26: Frequency 1 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-30 (Frequency detection value 1). Frequency detection range: F8-30 – F8-31 x F0-10 (Maximum frequency) to F8-30 + F8-31 x F0-10 27: Frequency 2 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-32 (Frequency detection value 2). Frequency detection range: F8-32 – F8-33 x F0-10 (Maximum frequency) to F8-32 + F8-33 x F0-10 28: Current 1 reached An active signal will be output when the output current of the AC drive is within the range of F8-38 (Detection level of current 1). Current detection range: F8-38 – F8-39 x F1-03 (rated motor current) to F8-38 + F8-39 x F1-03 29: Current 2 reached An active signal will be output when the output current of the AC drive is within the range of F8-40 (Detection level of current 2). Current detection range = F8-40 – F8-41 x F1-03 (Rated motor current) to F8-40 + F8-41 x F1-03 30: Timing reached On the condition that the timing function (F8-42) is enabled, the terminal outputs an active signal when the current running

	time of AC drive reaches the set time. The timing duration is defined by F8-43 and F8-44. 31: AI1 input limit exceeded The terminal outputs an active signal when AI1 input is higher than the value of F8-46 (AI1 input voltage upper limit) or lower than the value of F8-45 (AI1 input voltage lower limit). 32: Load loss The terminal outputs an active signal when load loss occurs. 33: Reverse running The terminal outputs an active signal when the AC drive runs in the reverse direction. 34: Zero current state When the output current of the AC drive is within the zero-current range for a time exceeding F8-35 (Zero current detection delay), the DO outputs an active signal. Zero current detection range = 0 to F8-34 x F1-03 35: IGBT temperature reached The terminal outputs an active signal when the IGBT heatsink temperature (F7-07) reaches the IGBT temperature threshold (F8-47). 36: Output current limit exceeded When the output current of the AC drive is greater than F8-36 (Output overcurrent threshold) for a time exceeding F8-37 (Output overcurrent detection delay), the DO outputs an active signal. 37: Frequency lower limit reached (ON at stop) The terminal outputs an active signal when the running frequency reaches the frequency lower limit (F0-14). The terminal still outputs the active signal when the drive is in the stop state. 38: Alarm output Output(all faults) If a fault occurs on the AC drive and the AC drive continues to run upon fault, the DO outputs an active signal. For details about the fault protection action, see F9-47 to F9-50. 39: Motor overtemperature An active signal will be output when the motor temperature reaches the threshold defined by F9-58 (Motor overtemperature pre-alarm threshold). You can check the motor temperature using U0-34. 40: Current running time reached The terminal outputs an active signal when the current operation time of the AC drive is longer than the value of F8-53 (current running time threshold). 41: Fault output (undervoltage excluded) When a fault occurs on the AC drive (undervoltage excluded), the DO terminal outputs an active signal. 42: STO output When the STO function is triggered, the DO terminal outputs an active signal. 43: Operation limited when a minor fault that limits the normal operation occurs, the keypad displays "LXXX.XX", and the DO outputs an active signal. 44: Brake output at stop (wire drawing machine) When the AC drive stops and the running frequency is lower than the brake frequency set by A7-30, the terminal outputs an active signal. After the brake delay time set by A7-31 expires, the DO terminal outputs an inactive signal. Others: B connector

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

A1-12	VDO2 function	0xA10C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: Same as"A1-11"							
	Description: Same as"A1-11"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-13	VDO3 function	0xA10D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: Same as"A1-12"							
	Description: Same as"A1-12"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-14	VDO4 function	0xA10E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: No output
1: Drive operating
2: Fault output
3: Frequency level detection (FDT1) output
4: Frequency reached
5: Operating at zero speed (OFF at stop)
6: Motor overload pre-alarm
7: Drive overload pre-alarm
8: Set counting value reached
9: Designated counting value reached
10: Length reached
11: Simple PLC cycle completed
12: Accumulative operating time reached
13: Wobble frequency limited
15: Ready to RUN
16: AI1 > AI2
17: Frequency upper limit reached
18: Frequency lower limit reached (OFF at stop)
19: Undervoltage status output
20: Communication setting
21: Brake output
22: Reserved
23: Operating at zero speed 2 (ON at stop)
24: Accumulative power-on time reached
25: Frequency level detection (FDT2) output
26: Frequency 1 reached
27: Frequency 2 reached
30: Timing reached
31: AI1 input limit exceeded
32: Load loss
33: Reverse running
34: Zero current status
35: Module temperature reached
36: Output current limit exceeded
37: Frequency lower limit reached (ON at stop)
38: Alarm output (all faults)
39: Motor overtemperature output
40: Current operating time reached
41: Fault output (undervoltage excluded)
42: STO output
43: Operation output limited

	14： Torque limited	28： Current 1 reached 29： Current 2 reached	Others： B connector

Description：

0: No output

The output terminal has no function.

1: Running

When the AC drive is running with output frequency (can be 0), the terminal outputs an active signal.

2: Fault output

The DO outputs the active signal when the AC drive stops due to a fault.

3: Frequency level detection 1 (FDT1) output

When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the FDT hysteresis value (product of F8-19 and F8-20), the active signal is canceled.

4: Frequency reached

When the running frequency of the AC drive is within a certain range (target frequency±F8-21 x maximum frequency), the DO outputs an active signal.

5: Operating at zero speed (OFF at stop)

When the output frequency is 0 during AC drive running, an active signal is output. When the AC drive is in the stop state, the signal is inactive.

6: Motor overload pre-alarm

The AC drive judges whether the motor load exceeds the overload pre-alarm threshold according to the overload pre-alarm coefficient (F9-02) before performing the protection action. If the pre-alarm threshold is exceeded, this terminal outputs an active signal. (For calculation of the alarm threshold, see the description of motor overload protection.)

7: AC drive overload pre-alarm

This output function provides an active signal 10s before the AC drive triggers overload protection.

8: Set counting value reached

An active signal will be output when the counting value reaches the value of Fb-08.

9: Designated counting value reached

An active signal will be output when the counting value reaches the value of Fb-09.

10: Length reached

The terminal outputs an active signal when the detected actual length exceeds the value of Fb-05.

11: Simple PLC cycle completed

The terminal outputs a pulse signal with width of 250 ms when the simple PLC completes one cycle.

12: Accumulative operating time reached

The AC drive compares the cumulative running time and the time set by F8-17 and F8-75. If the former is greater than or equal to the latter, the terminal outputs an active signal.

13: Frequency limited

The terminal outputs an active signal when the frequency reference exceeds the frequency upper or lower limit, and the output frequency of AC drive reaches the upper or lower limit.

14: Torque limited

The terminal outputs an active signal when the output torque of AC drive reaches the toque limit in speed control mode.

15: Ready to RUN

	The terminal outputs an active signal when the AC drive is ready for running without any fault after power-on. 16: AI1 > AI2 The terminal outputs an active signal when the value input through AI1 is higher than AI2. 17: Frequency upper limit reached The terminal outputs an active signal when the running frequency reaches the frequency upper limit (F0-12). 18: Frequency lower limit reach (no output at stop) If F8-14 (running mode when frequency reference is below lower limit) is set to 1 (stop), the DO outputs an inactive signal no matter whether the running frequency reaches the frequency lower limit. When F8-14 (Running mode when frequency reference < frequency lower limit) is set to 0 (run at the frequency lower limit) or 2 (run at zero speed) and the running frequency reaches the lower limit, the terminal outputs an active signal. 19: Undervoltage state The terminal outputs an active signal when undervoltage occurs on the AC drive. 20: Communication The communication address 0x2001 determines whether the terminal is active or not. 21: Brake output An active signal will be sent when the brake is turned on. An inactive signal will be sent when the brake is turned off. 22: Reserved 23: Operating at zero speed 2 (ON at stop) When the output frequency is 0 during running, an active signal is output. The signal is still active when the AC drive stops. 24: Accumulative power-on time reached The AC drive compares the cumulative running time and the time set by F8-16 and F8-74. If the former is greater than or equal to the latter, the terminal outputs an active signal. 25: Frequency level detection FDT2 output (FDT2) When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the frequency detection hysteresis value (product of F8-28 and F8-29), the active signal is canceled. 26: Frequency 1 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-30 (Frequency detection value 1). Frequency detection range: F8-30 – F8-31 x F0-10 (Maximum frequency) to F8-30 + F8-31 x F0-10 27: Frequency 2 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-32 (Frequency detection value 2). Frequency detection range: F8-32 – F8-33 x F0-10 (Maximum frequency) to F8-32 + F8-33 x F0-10 28: Current 1 reached An active signal will be output when the output current of the AC drive is within the range of F8-38 (Detection level of current 1). Current detection range: F8-38 – F8-39 x F1-03 (rated motor current) to F8-38 + F8-39 x F1-03 29: Current 2 reached An active signal will be output when the output current of the AC drive is within the range of F8-40 (Detection level of current 2). Current detection range = F8-40 – F8-41 x F1-03 (Rated motor current) to F8-40 + F8-41 x F1-03 30: Timing reached On the condition that the timing function (F8-42) is enabled, the terminal outputs an active signal when the current running time of AC drive reaches the set time. The timing duration is defined by F8-43 and F8-44.

	31: AI1 input limit exceeded The terminal outputs an active signal when AI1 input is higher than the value of F8-46 (AI1 input voltage upper limit) or lower than the value of F8-45 (AI1 input voltage lower limit). 32: Load loss The terminal outputs an active signal when load loss occurs. 33: Reverse running The terminal outputs an active signal when the AC drive runs in the reverse direction. 34: Zero current state When the output current of the AC drive is within the zero-current range for a time exceeding F8-35 (Zero current detection delay), the DO outputs an active signal. Zero current detection range = 0 to F8-34 x F1-03 35: IGBT temperature reached The terminal outputs an active signal when the IGBT heatsink temperature (F7-07) reaches the IGBT temperature threshold (F8-47). 36: Output current limit exceeded When the output current of the AC drive is greater than F8-36 (Output overcurrent threshold) for a time exceeding F8-37 (Output overcurrent detection delay), the DO outputs an active signal. 37: Frequency lower limit reached (ON at stop) The terminal outputs an active signal when the running frequency reaches the frequency lower limit (F0-14). The terminal still outputs the active signal when the drive is in the stop state. 38: Alarm output Output(all faults) If a fault occurs on the AC drive and the AC drive continues to run upon fault, the DO outputs an active signal. For details about the fault protection action, see F9-47 to F9-50. 39: Motor overtemperature An active signal will be output when the motor temperature reaches the threshold defined by F9-58 (Motor overtemperature pre-alarm threshold). You can check the motor temperature using U0-34. 40: Current running time reached The terminal outputs an active signal when the current operation time of the AC drive is longer than the value of F8-53 (current running time threshold). 41: Fault output (undervoltage excluded) When a fault occurs on the AC drive (undervoltage excluded), the DO terminal outputs an active signal. 42: STO output When the STO function is triggered, the DO terminal outputs an active signal. 43: Operation limited when a minor fault that limits the normal operation occurs, the keypad displays "LXXX.XX", and the DO outputs an active signal. 44: Brake output at stop (wire drawing machine) When the AC drive stops and the running frequency is lower than the brake frequency set by A7-30, the terminal outputs an active signal. After the brake delay time set by A7-31 expires, the DO terminal outputs an inactive signal. Others: B connector

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-15	VDO5 function	0xA10F	Refer to	0	Unsigned	Real time	General	Effective in

		"Value"		16 bit	changes	user	real time

Value:

0: No output	15: Ready to RUN	30: Timing reached
1: Drive operating	16: AI1 > AI2	31: AI1 input limit exceeded
2: Fault output	17: Frequency upper limit reached	32: Load loss
3: Frequency level detection (FDT1) output	18: Frequency lower limit reached (OFF at stop)	33: Reverse running
4: Frequency reached	19: Undervoltage status output	34: Zero current status
5: Operating at zero speed (OFF at stop)	20: Communication setting	35: Module temperature reached
6: Motor overload pre-alarm	21: Brake output	36: Output current limit exceeded
7: Drive overload pre-alarm	22: Reserved	37: Frequency lower limit reached (ON at stop)
8: Set counting value reached	23: Operating at zero speed 2 (ON at stop)	38: Alarm output (all faults)
9: Designated counting value reached	24: Accumulative power-on time reached	39: Motor overtemperature output
10: Length reached	25: Frequency level detection (FDT2) output	40: Current operating time reached
11: Simple PLC cycle completed	26: Frequency 1 reached	41: Fault output (undervoltage excluded)
12: Accumulative operating time reached	27: Frequency 2 reached	42: STO output
13: Wobble frequency limited	28: Current 1 reached	43: Operation output limited
14: Torque limited	29: Current 2 reached	Others: B connector

Description:

0: No output

The output terminal has no function.

1: Running

When the AC drive is running with output frequency (can be 0), the terminal outputs an active signal.

2: Fault output

The DO outputs an active signal when the AC drive stops due to a fault.

3: Frequency level detection 1 (FDT1) output

When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the FDT hysteresis value (product of F8-19 and F8-20), the active signal is canceled.

4: Frequency reached

When the running frequency of the AC drive is within a certain range (target frequency ± F8-21 x maximum frequency), the DO outputs an active signal.

5: Operating at zero speed (OFF at stop)

When the output frequency is 0 during AC drive running, an active signal is output. When the AC drive is in the stop state, the signal is inactive.

6: Motor overload pre-alarm

The AC drive judges whether the motor load exceeds the overload pre-alarm threshold according to the overload pre-alarm coefficient (F9-02) before performing the protection action. If the pre-alarm threshold is exceeded, this terminal outputs an

	active signal. (For calculation of the alarm threshold, see the description of motor overload protection.) 7: AC drive overload pre-alarm This output function provides an active signal 10s before the AC drive triggers overload protection. 8: Set counting value reached An active signal will be output when the counting value reaches the value of Fb-08. 9: Designated counting value reached An active signal will be output when the counting value reaches the value of Fb-09. 10: Length reached The terminal outputs an active signal when the detected actual length exceeds the value of Fb-05. 11: Simple PLC cycle completed The terminal outputs a pulse signal with width of 250 ms when the simple PLC completes one cycle. 12: Accumulative operating time reached The AC drive compares the cumulative running time and the time set by F8-17 and F8-75. If the former is greater than or equal to the latter, the terminal outputs an active signal. 13: Frequency limited The terminal outputs an active signal when the frequency reference exceeds the frequency upper or lower limit, and the output frequency of AC drive reaches the upper or lower limit. 14: Torque limited The terminal outputs an active signal when the output torque of AC drive reaches the toque limit in speed control mode. 15: Ready to RUN The terminal outputs an active signal when the AC drive is ready for running without any fault after power-on. 16: AI1 > AI2 The terminal outputs an active signal when the value input through AI1 is higher than AI2. 17: Frequency upper limit reached The terminal outputs an active signal when the running frequency reaches the frequency upper limit (F0-12). 18: Frequency lower limit reach (no output at stop) If F8-14 (running mode when frequency reference is below lower limit) is set to 1 (stop), the DO outputs an inactive signal no matter whether the running frequency reaches the frequency lower limit. When F8-14 (Running mode when frequency reference < frequency lower limit) is set to 0 (run at the frequency lower limit) or 2 (run at zero speed) and the running frequency reaches the lower limit, the terminal outputs an active signal. 19: Undervoltage state The terminal outputs an active signal when undervoltage occurs on the AC drive. 20: Communication The communication address 0x2001 determines whether the terminal is active or not. 21: Brake output An active signal will be sent when the brake is turned on. An inactive signal will be sent when the brake is turned off. 22: Reserved 23: Operating at zero speed 2 (ON at stop) When the output frequency is 0 during running, an active signal is output. The signal is still active when the AC drive stops. 24: Accumulative power-on time reached The AC drive compares the cumulative running time and the time set by F8-16 and F8-74. If the former is greater than or equal to the latter, the terminal outputs an active signal. 25: Frequency level detection FDT2 output (FDT2)

	When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the frequency detection hysteresis value (product of F8-28 and F8-29), the active signal is canceled. 26: Frequency 1 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-30 (Frequency detection value 1). Frequency detection range: F8-30 – F8-31 x F0-10 (Maximum frequency) to F8-30 + F8-31 x F0-10 27: Frequency 2 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-32 (Frequency detection value 2). Frequency detection range: F8-32 – F8-33 x F0-10 (Maximum frequency) to F8-32 + F8-33 x F0-10 28: Current 1 reached An active signal will be output when the output current of the AC drive is within the range of F8-38 (Detection level of current 1). Current detection range: F8-38 – F8-39 x F1-03 (rated motor current) to F8-38 + F8-39 x F1-03 29: Current 2 reached An active signal will be output when the output current of the AC drive is within the range of F8-40 (Detection level of current 2). Current detection range = F8-40 - F8-41 x F1-03 (Rated motor current) to F8-40 + F8-41 x F1-03 30: Timing reached On the condition that the timing function (F8-42) is enabled, the terminal outputs an active signal when the current running time of AC drive reaches the set time. The timing duration is defined by F8-43 and F8-44. 31: AI1 input limit exceeded The terminal outputs an active signal when AI1 input is higher than the value of F8-46 (AI1 input voltage upper limit) or lower than the value of F8-45 (AI1 input voltage lower limit). 32: Load loss The terminal outputs an active signal when load loss occurs. 33: Reverse running The terminal outputs an active signal when the AC drive runs in the reverse direction. 34: Zero current state When the output current of the AC drive is within the zero-current range for a time exceeding F8-35 (Zero current detection delay), the DO outputs an active signal. Zero current detection range = 0 to F8-34 x F1-03 35: IGBT temperature reached The terminal outputs an active signal when the IGBT heatsink temperature (F7-07) reaches the IGBT temperature threshold (F8-47). 36: Output current limit exceeded When the output current of the AC drive is greater than F8-36 (Output overcurrent threshold) for a time exceeding F8-37 (Output overcurrent detection delay), the DO outputs an active signal. 37: Frequency lower limit reached (ON at stop) The terminal outputs an active signal when the running frequency reaches the frequency lower limit (F0-14). The terminal still outputs the active signal when the drive is in the stop state. 38: Alarm output Output(all faults) If a fault occurs on the AC drive and the AC drive continues to run upon fault, the DO outputs an active signal. For details about the fault protection action, see F9-47 to F9-50. 39: Motor overtemperature

	An active signal will be output when the motor temperature reaches the threshold defined by F9-58 (Motor overtemperature pre-alarm threshold). You can check the motor temperature using U0-34. 40: Current running time reached The terminal outputs an active signal when the current operation time of the AC drive is longer than the value of F8-53 (current running time threshold). 41: Fault output (undervoltage excluded) When a fault occurs on the AC drive (undervoltage excluded), the DO terminal outputs an active signal. 42: STO output When the STO function is triggered, the DO terminal outputs an active signal. 43: Operation limited when a minor fault that limits the normal operation occurs, the keypad displays "LXXX.XX", and the DO outputs an active signal. 44: Brake output at stop (wire drawing machine) When the AC drive stops and the running frequency is lower than the brake frequency set by A7-30, the terminal outputs an active signal. After the brake delay time set by A7-31 expires, the DO terminal outputs an inactive signal. Others: B connector

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-21	VDO active mode	0xA115	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	VDO1	0: Positive logic active 1: Negative logic active
Tens	VDO2	0: Positive logic active 1: Negative logic active
Hundreds	VDO3	0: Positive logic active 1: Negative logic active
Thousands	VDO4	0: Positive logic active 1: Negative logic active
Ten thousands	VDO5	0: Positive logic active 1: Negative logic active

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-22	VDO1 output switch-on delay	0xA116	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
A1-23	VDO2 output switch-on delay	0xA117	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time

A1-24	VDO3 output switch-on delay	0xA118	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
A1-25	VDO4 output switch-on delay	0xA119	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
A1-26	VDO5 output switch-on delay	0xA11A	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-27	VDO1 output switch-off delay	0xA11B	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
A1-28	VDO2 output switch-off delay	0xA11C	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
A1-29	VDO3 output switch-off delay	0xA11D	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
A1-30	VDO4 output switch-off delay	0xA11E	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
A1-31	VDO5 output switch-off delay	0xA11F	0.0s~3600.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-32	VDO6 function	0xA120	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: No output
1: Drive operating
2: Fault output
3: Frequency level detection (FDT1) output
4: Frequency reached
5: Operating at zero speed (OFF at stop)
6: Motor overload pre-alarm
7: Drive overload pre-alarm
8: Set counting value reached
9: Designated counting value reached
16: AI1 > AI2
17: Frequency upper limit reached
18: Frequency lower limit reached (OFF at stop)
19: Undervoltage status output
20: Communication setting
21: Brake output
22: Reserved
23: Operating at zero speed 2 (ON at stop)
24: Accumulative power-on time reached
31: AI1 input limit exceeded
32: Load loss
33: Reverse running
34: Zero current status
35: Module temperature reached
36: Output current limit exceeded
37: Frequency lower limit reached (ON at stop)
38: Alarm output (all faults)
39: Motor overtemperature output
40: Current operating time reached

	10：Length reached 11：Simple PLC cycle completed 12：Accumulative operating time reached 13：Wobble frequency limited 14：Torque limited 15：Ready to RUN	25：Frequency level detection (FDT2) output 26：Frequency 1 reached 27：Frequency 2 reached 28：Current 1 reached 29：Current 2 reached 30：Timing reached	41：Fault output (undervoltage excluded) 42：STO output 43：Operation output limited 44：Brake output at stop (wire drawing machine) Others：B connector

Description：

0: No output

The output terminal has no function.

1: Running

When the AC drive is running with output frequency (can be 0), the terminal outputs an active signal.

2: Fault output

The DO outputs an active signal when the AC drive stops due to a fault.

3: Frequency level detection 1 (FDT1) output

When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the FDT hysteresis value (product of F8-19 and F8-20), the active signal is canceled.

4: Frequency reached

When the running frequency of the AC drive is within a certain range (target frequency±F8-21 x maximum frequency), the DO outputs an active signal.

5: Operating at zero speed (OFF at stop)

When the output frequency is 0 during AC drive running, an active signal is output. When the AC drive is in the stop state, the signal is inactive.

6: Motor overload pre-alarm

The AC drive judges whether the motor load exceeds the overload pre-alarm threshold according to the overload pre-alarm coefficient (F9-02) before performing the protection action. If the pre-alarm threshold is exceeded, this terminal outputs an active signal. (For calculation of the alarm threshold, see the description of motor overload protection.)

7: AC drive overload pre-alarm

This output function provides an active signal 10s before the AC drive triggers overload protection.

8: Set counting value reached

An active signal will be output when the counting value reaches the value of Fb-08.

9: Designated counting value reached

An active signal will be output when the counting value reaches the value of Fb-09.

10: Length reached

The terminal outputs an active signal when the detected actual length exceeds the value of Fb-05.

11: Simple PLC cycle completed

The terminal outputs a pulse signal with width of 250 ms when the simple PLC completes one cycle.

12: Accumulative operating time reached

The AC drive compares the cumulative running time and the time set by F8-17 and F8-75. If the former is greater than or equal to the latter, the terminal outputs an active signal.

13: Frequency limited

	The terminal outputs an active signal when the frequency reference exceeds the frequency upper or lower limit, and the output frequency of AC drive reaches the upper or lower limit. 14: Torque limited The terminal outputs an active signal when the output torque of AC drive reaches the toque limit in speed control mode. 15: Ready to RUN The terminal outputs an active signal when the AC drive is ready for running without any fault after power-on. 16: AI1 > AI2 The terminal outputs an active signal when the value input through AI1 is higher than AI2. 17: Frequency upper limit reached The terminal outputs an active signal when the running frequency reaches the frequency upper limit (F0-12). 18: Frequency lower limit reach (no output at stop) If F8-14 (running mode when frequency reference is below lower limit) is set to 1 (stop), the DO outputs an inactive signal no matter whether the running frequency reaches the frequency lower limit. When F8-14 (Running mode when frequency reference < frequency lower limit) is set to 0 (run at the frequency lower limit) or 2 (run at zero speed) and the running frequency reaches the lower limit, the terminal outputs an active signal. 19: Undervoltage state The terminal outputs an active signal when undervoltage occurs on the AC drive. 20: Communication The communication address 0x2001 determines whether the terminal is active or not. 21: Brake output An active signal will be sent when the brake is turned on. An inactive signal will be sent when the brake is turned off. 22: Reserved 23: Operating at zero speed 2 (ON at stop) When the output frequency is 0 during running, an active signal is output. The signal is still active when the AC drive stops. 24: Accumulative power-on time reached The AC drive compares the cumulative running time and the time set by F8-16 and F8-74. If the former is greater than or equal to the latter, the terminal outputs an active signal. 25: Frequency level detection FDT2 output (FDT2) When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the frequency detection hysteresis value (product of F8-28 and F8-29), the active signal is canceled. 26: Frequency 1 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-30 (Frequency detection value 1). Frequency detection range: F8-30 – F8-31 x F0-10 (Maximum frequency) to F8-30 + F8-31 x F0-10 27: Frequency 2 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-32 (Frequency detection value 2). Frequency detection range: F8-32 – F8-33 x F0-10 (Maximum frequency) to F8-32 + F8-33 x F0-10 28: Current 1 reached An active signal will be output when the output current of the AC drive is within the range of F8-38 (Detection level of current 1). Current detection range: F8-38 – F8-39 x F1-03 (rated motor current) to F8-38 + F8-39 x F1-03 29: Current 2 reached

	An active signal will be output when the output current of the AC drive is within the range of F8-40 (Detection level of current 2). Current detection range = F8-40 - F8-41 x F1-03 (Rated motor current) to F8-40 + F8-41 x F1-03 30: Timing reached On the condition that the timing function (F8-42) is enabled, the terminal outputs an active signal when the current running time of AC drive reaches the set time. The timing duration is defined by F8-43 and F8-44. 31: AI1 input limit exceeded The terminal outputs an active signal when AI1 input is higher than the value of F8-46 (AI1 input voltage upper limit) or lower than the value of F8-45 (AI1 input voltage lower limit). 32: Load loss The terminal outputs an active signal when load loss occurs. 33: Reverse running The terminal outputs an active signal when the AC drive runs in the reverse direction. 34: Zero current state When the output current of the AC drive is within the zero-current range for a time exceeding F8-35 (Zero current detection delay), the DO outputs an active signal. Zero current detection range = 0 to F8-34 x F1-03 35: IGBT temperature reached The terminal outputs an active signal when the IGBT heatsink temperature (F7-07) reaches the IGBT temperature threshold (F8-47). 36: Output current limit exceeded When the output current of the AC drive is greater than F8-36 (Output overcurrent threshold) for a time exceeding F8-37 (Output overcurrent detection delay), the DO outputs an active signal. 37: Frequency lower limit reached (ON at stop) The terminal outputs an active signal when the running frequency reaches the frequency lower limit (F0-14). The terminal still outputs the active signal when the drive is in the stop state. 38: Alarm output Output(all faults) If a fault occurs on the AC drive and the AC drive continues to run upon fault, the DO outputs an active signal. For details about the fault protection action, see F9-47 to F9-50. 39: Motor overtemperature An active signal will be output when the motor temperature reaches the threshold defined by F9-58 (Motor overtemperature pre-alarm threshold). You can check the motor temperature using U0-34. 40: Current running time reached The terminal outputs an active signal when the current operation time of the AC drive is longer than the value of F8-53 (current running time threshold). 41: Fault output (undervoltage excluded) When a fault occurs on the AC drive (undervoltage excluded), the DO terminal outputs an active signal. 42: STO output When the STO function is triggered, the DO terminal outputs an active signal. 43: Operation limited when a minor fault that limits the normal operation occurs, the keypad displays "LXXX.XX", and the DO outputs an active signal. 44: Brake output at stop (wire drawing machine) When the AC drive stops and the running frequency is lower than the brake frequency set by A7-30, the terminal outputs an active signal. After the brake delay time set by A7-31 expires, the DO terminal outputs an inactive signal.

	Others: B connector							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-33	VDO7 function	0xA121	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: No output
1: Drive operating
2: Fault output
3: Frequency level detection (FDT1) output
4: Frequency reached
5: Operating at zero speed (OFF at stop)
6: Motor overload pre-alarm
7: Drive overload pre-alarm
8: Set counting value reached
9: Designated counting value reached
10: Length reached
11: Simple PLC cycle completed
12: Accumulative operating time reached
13: Wobble frequency limited
14: Torque limited
15: Ready to RUN
16: AI1 > AI2
17: Frequency upper limit reached
18: Frequency lower limit reached (OFF at stop)
19: Undervoltage status output
20: Communication setting
21: Brake output
22: Reserved
23: Operating at zero speed 2 (ON at stop)
24: Accumulative power-on time reached
25: Frequency level detection (FDT2) output
26: Frequency 1 reached
27: Frequency 2 reached
28: Current 1 reached
29: Current 2 reached
30: Timing reached
31: AI1 input limit exceeded
32: Load loss
33: Reverse running
34: Zero current status
35: Module temperature reached
36: Output current limit exceeded
37: Frequency lower limit reached (ON at stop)
38: Alarm output (all faults)
39: Motor overtemperature output
40: Current operating time reached
41: Fault output (undervoltage excluded)
42: STO output
43: Operation output limited
44: Brake output at stop (wire drawing machine)
Others: B connector

Description:

0: No output

The output terminal has no function.

1: Running

When the AC drive is running with output frequency (can be 0), the terminal outputs an active signal.

2: Fault output

The DO outputs the active signal when the AC drive stops due to a fault.

3: Frequency level detection 1 (FDT1) output

When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the FDT hysteresis value (product of F8-19 and F8-20), the active signal is canceled.

4: Frequency reached

When the running frequency of the AC drive is within a certain range (target frequency±F8-21 x maximum frequency), the DO outputs an active signal.

	5: Operating at zero speed (OFF at stop) When the output frequency is 0 during AC drive running, an active signal is output. When the AC drive is in the stop state, the signal is inactive. 6: Motor overload pre-alarm The AC drive judges whether the motor load exceeds the overload pre-alarm threshold according to the overload pre-alarm coefficient (F9-02) before performing the protection action. If the pre-alarm threshold is exceeded, this terminal outputs an active signal. (For calculation of the alarm threshold, see the description of motor overload protection.) 7: AC drive overload pre-alarm This output function provides an active signal 10s before the AC drive triggers overload protection. 8: Set counting value reached An active signal will be output when the counting value reaches the value of Fb-08. 9: Designated counting value reached An active signal will be output when the counting value reaches the value of Fb-09. 10: Length reached The terminal outputs an active signal when the detected actual length exceeds the value of Fb-05. 11: Simple PLC cycle completed The terminal outputs a pulse signal with width of 250 ms when the simple PLC completes one cycle. 12: Accumulative operating time reached The AC drive compares the cumulative running time and the time set by F8-17 and F8-75. If the former is greater than or equal to the latter, the terminal outputs an active signal. 13: Frequency limited The terminal outputs an active signal when the frequency reference exceeds the frequency upper or lower limit, and the output frequency of AC drive reaches the upper or lower limit. 14: Torque limited The terminal outputs an active signal when the output torque of AC drive reaches the toque limit in speed control mode. 15: Ready to RUN The terminal outputs an active signal when the AC drive is ready for running without any fault after power-on. 16: AI1 > AI2 The terminal outputs an active signal when the value input through AI1 is higher than AI2. 17: Frequency upper limit reached The terminal outputs an active signal when the running frequency reaches the frequency upper limit (F0-12). 18: Frequency lower limit reach (no output at stop) If F8-14 (running mode when frequency reference is below lower limit) is set to 1 (stop), the DO outputs an inactive signal no matter whether the running frequency reaches the frequency lower limit. When F8-14 (Running mode when frequency reference < frequency lower limit) is set to 0 (run at the frequency lower limit) or 2 (run at zero speed) and the running frequency reaches the lower limit, the terminal outputs an active signal. 19: Undervoltage state The terminal outputs an active signal when undervoltage occurs on the AC drive. 20: Communication The communication address 0x2001 determines whether the terminal is active or not. 21: Brake output An active signal will be sent when the brake is turned on. An inactive signal will be sent when the brake is turned off. 22: Reserved

	23: Operating at zero speed 2 (ON at stop) When the output frequency is 0 during running, an active signal is output. The signal is still active when the AC drive stops. 24: Accumulative power-on time reached The AC drive compares the cumulative running time and the time set by F8-16 and F8-74. If the former is greater than or equal to the latter, the terminal outputs an active signal. 25: Frequency level detection FDT2 output (FDT2) When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the frequency detection hysteresis value (product of F8-28 and F8-29), the active signal is canceled. 26: Frequency 1 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-30 (Frequency detection value 1). Frequency detection range: F8-30 – F8-31 x F0-10 (Maximum frequency) to F8-30 + F8-31 x F0-10 27: Frequency 2 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-32 (Frequency detection value 2). Frequency detection range: F8-32 – F8-33 x F0-10 (Maximum frequency) to F8-32 + F8-33 x F0-10 28: Current 1 reached An active signal will be output when the output current of the AC drive is within the range of F8-38 (Detection level of current 1). Current detection range: F8-38 – F8-39 x F1-03 (Rated motor current) to F8-38 + F8-39 x F1-03 29: Current 2 reached An active signal will be output when the output current of the AC drive is within the range of F8-40 (Detection level of current 2). Current detection range = F8-40 – F8-41 x F1-03 (Rated motor current) to F8-40 + F8-41 x F1-03 30: Timing reached On the condition that the timing function (F8-42) is enabled, the terminal outputs an active signal when the current running time of AC drive reaches the set time. The timing duration is defined by F8-43 and F8-44. 31: AI1 input limit exceeded The terminal outputs an active signal when AI1 input is higher than the value of F8-46 (AI1 input voltage upper limit) or lower than the value of F8-45 (AI1 input voltage lower limit). 32: Load loss The terminal outputs an active signal when load loss occurs. 33: Reverse running The terminal outputs an active signal when the AC drive runs in the reverse direction. 34: Zero current state When the output current of the AC drive is within the zero-current range for a time exceeding F8-35 (Zero current detection delay), the DO outputs an active signal. Zero current detection range = 0 to F8-34 x F1-03 35: IGBT temperature reached The terminal outputs an active signal when the IGBT heatsink temperature (F7-07) reaches the IGBT temperature threshold (F8-47). 36: Output current limit exceeded When the output current of the AC drive is greater than F8-36 (Output overcurrent threshold) for a time exceeding F8-37 (Output overcurrent detection delay), the DO outputs an active signal. 37: Frequency lower limit reached (ON at stop)

The terminal outputs an active signal when the running frequency reaches the frequency lower limit (F0-14). The terminal still outputs the active signal when the drive is in the stop state.

38: Alarm output Output(all faults)

If a fault occurs on the AC drive and the AC drive continues to run upon fault, the DO outputs an active signal. For details about the fault protection action, see F9-47 to F9-50.

39: Motor overtemperature

An active signal will be output when the motor temperature reaches the threshold defined by F9-58 (Motor overtemperature pre-alarm threshold). You can check the motor temperature using U0-34.

40: Current running time reached

The terminal outputs an active signal when the current operation time of the AC drive is longer than the value of F8-53 (current running time threshold).

41: Fault output (undervoltage excluded)

When a fault occurs on the AC drive (undervoltage excluded), the DO terminal outputs an active signal.

42: STO output

When the STO function is triggered, the DO terminal outputs an active signal.

43: Operation limited

when a minor fault that limits the normal operation occurs, the keypad displays "LXXX.XX", and the DO outputs an active signal.

44: Brake output at stop (wire drawing machine)

When the AC drive stops and the running frequency is lower than the brake frequency set by A7-30, the terminal outputs an active signal. After the brake delay time set by A7-31 expires, the DO terminal outputs an inactive signal.

Others: B connector

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-34	VDO8 function	0xA122	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: No output	16: AI1 > AI2	31: AI1 input limit exceeded
1: Drive operating	17: Frequency upper limit reached	32: Load loss
2: Fault output	18: Frequency lower limit reached (OFF at stop)	33: Reverse running
3: Frequency level detection (FDT1) output	19: Undervoltage status output	34: Zero current status
4: Frequency reached	20: Communication setting	35: Module temperature reached
5: Operating at zero speed (OFF at stop)	21: Brake output	36: Output current limit exceeded
6: Motor overload pre-alarm	22: Reserved	37: Frequency lower limit reached (ON at stop)
7: Drive overload pre-alarm	23: Operating at zero speed 2 (ON at stop)	38: Alarm output (all faults)
8: Set counting value reached	24: Accumulative power-on time reached	39: Motor overtemperature output
9: Designated counting value reached	25: Frequency level detection	40: Current operating time reached
10: Length reached		41: Fault output (undervoltage

	11：Simple PLC cycle completed	(FDT2) output	excluded)
	12：Accumulative operating time reached	26：Frequency 1 reached	42：STO output
		27：Frequency 2 reached	43：Operation output limited
	13：Wobble frequency limited	28：Current 1 reached	44：Brake output at stop (wire drawing machine)
	14：Torque limited	29：Current 2 reached	
	15：Ready to RUN	30：Timing reached	Others：B connector

Description：

0: No output

The output terminal has no function.

1: Running

When the AC drive is running with output frequency (can be 0), the terminal outputs an active signal.

2: Fault output

The DO outputs an active signal when the AC drive stops due to a fault.

3: Frequency level detection 1 (FDT1) output

When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the FDT hysteresis value (product of F8-19 and F8-20), the active signal is canceled.

4: Frequency reached

When the running frequency of the AC drive is within a certain range (target frequency±F8-21 x maximum frequency), the DO outputs an active signal.

5: Operating at zero speed (OFF at stop)

When the output frequency is 0 during AC drive running, an active signal is output. When the AC drive is in the stop state, the signal is inactive.

6: Motor overload pre-alarm

The AC drive judges whether the motor load exceeds the overload pre-alarm threshold according to the overload pre-alarm coefficient (F9-02) before performing the protection action. If the pre-alarm threshold is exceeded, this terminal outputs an active signal. (For calculation of the alarm threshold, see the description of motor overload protection.)

7: AC drive overload pre-alarm

This output function provides an active signal 10s before the AC drive triggers overload protection.

8: Set counting value reached

An active signal will be output when the counting value reaches the value of Fb-08.

9: Designated counting value reached

An active signal will be output when the counting value reaches the value of Fb-09.

10: Length reached

The terminal outputs an active signal when the detected actual length exceeds the value of Fb-05.

11: Simple PLC cycle completed

The terminal outputs a pulse signal with width of 250 ms when the simple PLC completes one cycle.

12: Accumulative operating time reached

The AC drive compares the cumulative running time and the time set by F8-17 and F8-75. If the former is greater than or equal to the latter, the terminal outputs an active signal.

13: Frequency limited

The terminal outputs an active signal when the frequency reference exceeds the frequency upper or lower limit, and the

	output frequency of AC drive reaches the upper or lower limit. 14: Torque limited The terminal outputs an active signal when the output torque of AC drive reaches the toque limit in speed control mode. 15: Ready to RUN The terminal outputs an active signal when the AC drive is ready for running without any fault after power-on. 16: AI1 > AI2 The terminal outputs an active signal when the value input through AI1 is higher than AI2. 17: Frequency upper limit reached The terminal outputs an active signal when the running frequency reaches the frequency upper limit (F0-12). 18: Frequency lower limit reach (no output at stop) If F8-14 (running mode when frequency reference is below lower limit) is set to 1 (stop), the DO outputs an inactive signal no matter whether the running frequency reaches the frequency lower limit. When F8-14 (Running mode when frequency reference < frequency lower limit) is set to 0 (run at the frequency lower limit) or 2 (run at zero speed) and the running frequency reaches the lower limit, the terminal outputs an active signal. 19: Undervoltage state The terminal outputs an active signal when undervoltage occurs on the AC drive. 20: Communication The communication address 0x2001 determines whether the terminal is active or not. 21: Brake output An active signal will be sent when the brake is turned on. An inactive signal will be sent when the brake is turned off. 22: Reserved 23: Operating at zero speed 2 (ON at stop) When the output frequency is 0 during running, an active signal is output. The signal is still active when the AC drive stops. 24: Accumulative power-on time reached The AC drive compares the cumulative running time and the time set by F8-16 and F8-74. If the former is greater than or equal to the latter, the terminal outputs an active signal. 25: Frequency level detection FDT2 output (FDT2) When the running frequency is higher than the detected value, the DO outputs an active signal. When the running frequency is lower than the result of the detected value minus the frequency detection hysteresis value (product of F8-28 and F8-29), the active signal is canceled. 26: Frequency 1 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-30 (Frequency detection value 1). Frequency detection range: F8-30 – F8-31 x F0-10 (Maximum frequency) to F8-30 + F8-31 x F0-10 27: Frequency 2 reached An active signal will be output when the operating frequency of the AC drive is within the detection range of F8-32 (Frequency detection value 2). Frequency detection range: F8-32 – F8-33 x F0-10 (Maximum frequency) to F8-32 + F8-33 x F0-10 28: Current 1 reached An active signal will be output when the output current of the AC drive is within the range of F8-38 (Detection level of current 1). Current detection range: F8-38 – F8-39 x F1-03 (rated motor current) to F8-38 + F8-39 x F1-03 29: Current 2 reached An active signal will be output when the output current of the AC drive is within the range of F8-40 (Detection level of

	current 2). Current detection range = F8-40 – F8-41 x F1-03 (Rated motor current) to F8-40 + F8-41 x F1-03 30: Timing reached On the condition that the timing function (F8-42) is enabled, the terminal outputs an active signal when the current running time of AC drive reaches the set time. The timing duration is defined by F8-43 and F8-44. 31: AI1 input limit exceeded The terminal outputs an active signal when AI1 input is higher than the value of F8-46 (AI1 input voltage upper limit) or lower than the value of F8-45 (AI1 input voltage lower limit). 32: Load loss The terminal outputs an active signal when load loss occurs. 33: Reverse running The terminal outputs an active signal when the AC drive runs in the reverse direction. 34: Zero current state When the output current of the AC drive is within the zero-current range for a time exceeding F8-35 (Zero current detection delay), the DO outputs an active signal. Zero current detection range = 0 to F8-34 x F1-03 35: IGBT temperature reached The terminal outputs an active signal when the IGBT heatsink temperature (F7-07) reaches the IGBT temperature threshold (F8-47). 36: Output current limit exceeded When the output current of the AC drive is greater than F8-36 (Output overcurrent threshold) for a time exceeding F8-37 (Output overcurrent detection delay), the DO outputs an active signal. 37: Frequency lower limit reached (ON at stop) The terminal outputs an active signal when the running frequency reaches the frequency lower limit (F0-14). The terminal still outputs the active signal when the drive is in the stop state. 38: Alarm output Output(all faults) If a fault occurs on the AC drive and the AC drive continues to run upon fault, the DO outputs an active signal. For details about the fault protection action, see F9-47 to F9-50. 39: Motor overtemperature An active signal will be output when the motor temperature reaches the threshold defined by F9-58 (Motor overtemperature pre-alarm threshold). You can check the motor temperature using U0-34. 40: Current running time reached The terminal outputs an active signal when the current operation time of the AC drive is longer than the value of F8-53 (current running time threshold). 41: Fault output (undervoltage excluded) When a fault occurs on the AC drive (undervoltage excluded), the DO terminal outputs an active signal. 42: STO output When the STO function is triggered, the DO terminal outputs an active signal. 43: Operation limited when a minor fault that limits the normal operation occurs, the keypad displays "LXXX.XX", and the DO outputs an active signal. 44: Brake output at stop (wire drawing machine) When the AC drive stops and the running frequency is lower than the brake frequency set by A7-30, the terminal outputs an active signal. After the brake delay time set by A7-31 expires, the DO terminal outputs an inactive signal. Others: B connector

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-35	VDO9 function	0xA123	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: Same as"A1-34"							
	Description: Same as"A1-34"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-36	VDO10 function	0xA124	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: Same as"A1-35"							
	Description: Same as"A1-35"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-37	VDO11 function	0xA125	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: Same as"A1-36"							
	Description: Same as"A1-36"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-38	VDO6–VDO10 active mode	0xA126	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	VDO6	0: Positive logic active 1: Negative logic active
Tens	VDO7	0: Positive logic active 1: Negative logic active

Hundreds	VDO8	0: Positive logic active 1: Negative logic active
Thousands	VDO9	0: Positive logic active 1: Negative logic active
Ten thousands	VDO10	0: Positive logic active 1: Negative logic active

Description:

0: Positive logic, set to 1 when the set condition is met or 0 when not met

1: Negative logic, set to 1 when the set condition is not met or 0 when met

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-39	VDO11 active mode	0xA127	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: Positive logic active

1: Negative logic active

Description:

0: Positive logic, set to 1 when the set condition is met or 0 when not met

1: Negative logic, set to 1 when the set condition is not met or 0 when met

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-40	VDI6 function	0xA128	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: No function
1: Forward run (IN1)
2: Reverse run (IN2)
3: Three-wire operation control (IN3)
4: Forward jog (FJOG)
5: Reverse jog (RJOG)
6: Terminal UP
7: Terminal DOWN
8: Coast to stop
9: Fault reset (RESET)
10: Pause
11: External fault normally open
23: Simple PLC status reset
24: Wobble pause
25: Counter input
26: Counter reset
27: Length count input
28: Length reset
29: Torque control inhibited
31: Reserved
32: Immediate DC braking
33: External fault normally closed (NC) input
34: Frequency modification enabled
46: Speed control/Torque control selection
47: Emergency stop
48: External stop terminal 2
49: Decelerate to DC braking
50: Clear the current running time
51: Reserved
52: Reverse run inhibited
64: Positive limit switch
65: Negative limit switch
66: Water-cooling fault input
67: Low-liquid fault input
70: Control channel selection

	(NO) input 12：Multi-reference terminal 1 13：Multi-reference terminal 2 14：Multi-reference terminal 3 15：Multi-reference terminal 4 16：Terminal 1 for acceleration/deceleration selection 17：Terminal 2 for acceleration/deceleration selection 18：Frequency reference switchover 19：UP and DOWN setting clear 20：Control command switchover terminal 1 21：Acceleration/Deceleration inhibited 22：PID pause	35：PID operation direction reversal 36：External stop terminal 1 37：Control command switchover terminal 2 38：PID integral pause 39：Switchover between main frequency reference X and preset frequency 40：Switchover between auxiliary frequency reference Y and preset frequency 41：Motor selection terminal 1 42：Reserved 43：PID parameter switchover 44：User-defined fault 1 45：User-defined fault 2	71：Setting channel selection (Reserved) 72：Terminal module A/B selection 73：Start selection BIT0 74：Start selection BIT1 75：Control command switchover terminal 3 76：Motor selection terminal 2 77：Operation enable 78：Forward run allowed 79：Reverse run allowed 80：RFG input cleared
	Description： 0: No function The DI terminal has no function. 1: Forward run (IN1) The drive operates forwardly. FWD indicates forward running. In two-wire mode 1 (F4-11 = 0), activating DI function 1 triggers forward running. In two-wire operation mode 2 (F4-11 = 1), activating DI function 1 triggers a running command. 2: Reverse run (IN2) The drive operates reversely. REV indicates reverse running. In two-wire mode 1 (F4-11 = 0), activating DI function 2 triggers reverse running. In two-wire mode 2 (F4-11 = 1), activating DI function 2 triggers forward/reverse running. 3: Three-wire operation control (IN3) The drive operates in three-wire control mode. To set the running command source to the terminal, set F4-11 (terminal command mode) to 2 (three-wire mode 1) or 3 (three-wire mode 2), and set the DI to function 3. The three-wire control modes include three-wire mode 1 and three-wire mode 2. 4: Forward jog (FJOG) The drive jogs forwardly. In the jogging mode, the drive runs at the frequency set by F8-00 (Jogging frequency), which is generally used for maintenance and commissioning of the equipment on site. 5: Reverse run (RJOG) The drive jogs reversely. In the jogging mode, the drive runs at the frequency set by F8-00 (Jogging frequency), which is generally used for maintenance and commissioning of the equipment on site. 6: Terminal UP Used to modify the frequency increase command. Activating the terminal is equivalent to pressing and holding the increment key. Deactivating the terminal is equivalent to releasing the increment key. 7: Terminal DOWN		

	Used to modify the frequency decrease command. Activating the terminal is equivalent to pressing and holding the decrement key. Deactivating the terminal is equivalent to releasing the decrement key. 8: Coast to stop Once the drive receives a stop command, it immediately stops output and the load then coasts to stop based on the mechanical inertia. The AC drive stops output to shut down. At this time, the power supply of the motor is cut off and the driving system is in the free braking state. This is also known as inertia stop because the stop time is determined by the inertia of the driving system. 9: Fault reset (RESET). Activating the terminal resets the AC drive upon a fault. This function is the same as that of the STOP/RES key on the operating panel. This function allows you to perform a reset upon the fault remotely. 10: Operation pause This function is valid only when F0-02 is set to 1 (terminal). After this function is assigned to the terminal, the drive decelerates to stop with all the operating parameters memorized (such as PLC parameters, wobble frequency, and PID parameters). When the terminal is inactive, the drive resumes to the status before decelerating to stop. 11: NO input of external fault The drive reports E015.1 upon receiving an external signal. 12-15: Multi-reference terminals 1–4 The drive selects the multi-reference as the main frequency. Sixteen speeds or sixteen references can be set through combinations of sixteen states of these four terminals. It is suitable for applications where the operating frequency of the drive does not require continuous adjustment, and only several frequency values need to be used. 16-17: Terminal 1 to 2 for acceleration/deceleration selection Four groups of acceleration and deceleration times can be switched through four states of these two terminals. The acceleration time indicates the time required by the AC drive to accelerate from 0 Hz to the acceleration/deceleration base frequency (F0-25). The deceleration time indicates the time required by the AC drive to decelerate from the acceleration/deceleration base frequency (F0-25) to 0 Hz. 18: Frequency source switchover This function enables selection of different frequency reference input mode. The frequency reference is set through F0-07 (Frequency reference superposition). 19: UP and DOWN setting clear Activating the terminal clears the frequency that is set by the increment or decrement key on the operating panel or the terminal functioning as UP/DOWN keys and resumes the frequency reference to the value specified by F0-08. 20: Command source switchover terminal 1 When the running command is set through the terminal (F0-02=1) and this terminal is active, the control mode can be switched between the terminal and the operating panel. When the running command is set through communication (F0-02=2) and this terminal is active, the control mode can be switched between the communication and the operating panel. 21: Acceleration/Deceleration inhibited The terminal is used to maintain the current running frequency of the AC drive regardless of changes of the external input frequency (unless a stop command is received). 22: PID pause PID is invalid temporarily. The AC drive maintains the current output frequency without supporting PID adjustment of the frequency source. 23: Simple PLC status reset Used to restore the AC drive to the initial state of the simple PLC.

	24: Wobble pause In the wobble process, when this terminal is active, the wobble function pauses (the AC drive outputs at the center frequency). 25: Counter input In the count process, when the terminal is active, a count pulse is input. 26: Counter reset In the count process, when the terminal is active, the counter status is cleared. 27: Length count input In the fixed length process, when the terminal is active, the length count is input. 28: Length reset In the fixed length process, when the terminal is active, the length is cleared. 29: Torque control prohibited When the terminal is active, the AC drive switches from the torque control mode to the speed control mode. When the terminal is inactive, the AC drive switches back to the torque control mode. 30: Pulse input When DI5 is used as the pulse input terminal, DI5 must be allocated with this function. 31: Reserved 32: Immediate DC braking The drive directly switches to the DC braking state. DC braking indicates that the drive outputs direct current to the stator winding of the asynchronous motor to form a static magnetic field, enabling the motor to brake with energy consumption. In this state, the rotor cuts the static magnetic field to generate braking torque, which stops the motor quickly. 33: NC input of external fault The drive reports E015.2 upon receiving an external signal. 34: Frequency modification enabled When the terminal is active, the frequency can be modified. When the terminal is inactive, the frequency cannot be modified. 35: PID action direction reversal The PID action direction is reversed to the direction set by FA-03 (PID action direction). 36: External stop terminal 1 The terminal is used to stop the drive regardless of the value of F0-02, which functions the same as the STOP/RES key on the operating panel. 37: Command source switchover terminal 2 This function enables the switchover between the terminal control and the communication control. If terminal control is used, the system switches to communication control when the terminal is active. If communication control is used, the system switches to terminal control when the terminal is active. 38: PID integral pause The integral adjustment function pauses when the terminal is active. However, the proportional and derivative adjustment functions are still valid. 39: Switchover between main frequency reference X and preset frequency This function is used to switch from main frequency reference X to F0-08 (Preset frequency). 40: Switchover between auxiliary frequency reference Y and preset frequency This function is used to switch from auxiliary frequency reference Y to F0-08 (Preset frequency). 41, 76: Motor selection terminals 1 to 4

	Used to select motor parameters. For example, when DI1 is assigned with function 41 and DI2 is assigned with function 76, motor 1 applies when DI1 and DI2 are inactive; motor 2 applies when DI1 is active and DI2 is inactive; motor 3 applies when DI1 is inactive and DI2 is active; motor 4 applies when DI1 and DI2 are both active. 42: Reserved 43: PID parameter switchover If PID parameters are switched over through DI (FA-18 = 1), the following conditions are true. When the terminal is inactive, the PID parameters are FA-05 to FA-07 (proportional gain Kp1, integral time Ti1, and derivative time Td1). When the terminal is active, the PID parameters are FA-15 to FA-17 (PID gain Kp2, integral time Ti2, and derivative time Td2). 44: User-defined fault 1 When the AC drive reports E027.1, the AC drive will take measures according to the value of F9-49 (Fault protection action selection). 45: User-defined fault 2 When the AC drive reports E027.2, the AC drive will take measures according to the value of F9-49 (Fault protection action selection). 46: Switchover between speed control and torque control The terminal is used to switch between the speed control mode and the torque control mode. If A0-00 (speed/torque control mode) is set to 0, the torque control mode is used when the terminal is active, and the speed control mode is used when the terminal is inactive. If A0-00 (speed/torque control mode) is set to 1, the speed control mode is used when the terminal is active, and the torque control mode is used when the terminal is inactive. 47: Emergency stop When the system is in the emergency state, the drive decelerates according to F8-55 (Deceleration time for emergency stop) or according to the minimum unit time when the deceleration time for emergency stop is 0s in the V/f control mode. The input terminal does not need to be in the closed state continuously. Even if it is closed only for a moment, an emergency stop will occur immediately. Different from general deceleration time, the emergency stop input terminal is opened after the deceleration time for emergency stop expires. In this case, if the operation signal is still active, the drive will not restart. To restart the drive, disconnect the operation terminal and input the operation command again. 48: External stop terminal 2 The terminal is used to make the AC drive decelerate to stop in any control mode (operating panel, terminal, or communication control). In this case, the deceleration time is fixed to the value of F8-08 (deceleration time 4). 49: Decelerate to DC braking The AC drive decelerates to F6-11 first and then enters the DC braking state. 50: Clear the current running time The terminal is used to clear the current running time (U0-26) of the AC drive. When the terminal is active, the current running time of the drive is not cleared. 51: Two-wire/Three-wire control switchover The terminal is used to switch between two-wire control and three-wire control. When F4-11 is set to 0 (two-wire mode 1) and the terminal is active, the drive switches to three-wire mode 1. When the terminal is inactive, two-wire mode 1 is used. When F4-11 is set to 1 (two-wire mode 2) and the terminal is active, the drive switches to three-wire mode 2. When F4-11 is set to 2 (three-wire mode 1) and the terminal is active, the drive switches to two-wire mode 1. When F4-11 is set to 3 (three-wire mode 2) and the terminal is active, the drive switches to two-wire mode 2. 52: Reverse run inhibited When the terminal is active, even if the reverse frequency is set, the actual frequency of the AC drive is fixed to 0. This function is the same as F8-13 (Reverse frequency inhibited).

64: Forward limit switch
65: Reverse limit switch
66: Water cooling fault input
When the external signal is sent to the drive and the terminal is active, E064.1 is reported.
67: Low liquid fault input
When the external signal is sent to the drive and the terminal is active, A066.1 (thousands of F9-50 = 2) or E066.1 (thousands of F9-50 = 0) is reported.
68 and 69: Reserved
70: Control channel selection
Select two groups of user-defined command channels. 0 represents channel 1 and 1 represents channel 2.
71: Setting channel selection (reserved)
72: Terminal module A/B selection
0 represents module A and 1 represents module B.
73 to 74: Start selection (BIT0/bit1)
Used to select the start mode. For example, if DI1 and DI2 are assigned with functions 73 and 74, respectively, direct start is selected when both DI1 and DI2 are inactive; flying start is selected when DI1 is active but DI2 is inactive; DC braking start is selected when DI1 is inactive but DI2 is active; and the last start mode is selected when both DI1 and DI2 are active.
75: Command source switchover terminal 3
This function enables the switchover between terminal control and communication control.
77: Operation enable
When the terminal function is high-level triggered, operation is allowed. Otherwise, operation is not allowed or the drive stops as defined by AA-09.
78: Forward run allowed
When the terminal function is high level-triggered, the frequency reference can be positive.
79: Reverse run allowed
When the terminal function is high level-triggered, the frequency reference can be negative.
80: RFG input clear
When the terminal function is low level-triggered, the target reference is cleared.
86: Open circuit detection (wire drawing machine)
After the AC drive is started and the time set by A7-32 (Breakage detection time for startup delay) expires, detection on the DI status starts. If the DI is active, the AC drive reports E031.2.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-41	VDI6 hardware source	0xA129	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value

	Ones	VDI6	0: VDO6 state 1: A1-42 2: DI6 state 3: Communication value (F4-50 DiComm communication data bit15) 4: Reserved 5: Reserved

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-42	VDI6 state	0xA12A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	VDI6	0: Inactive 1: Active

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-43	VDI1–VDI5 active mode	0xA12B	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
Ones	VDI1	0: Active low 1: Active high
Tens	VDI2	0: Active low 1: Active high
Hundreds	VDI3	0: Active low 1: Active high
Thousands	VDI4	0: Active low 1: Active high
Ten thousands	VDI5	0: Active low 1: Active high

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-44	VDI6 active mode	0xA12C	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value

	Ones	VDI6	0: Active low 1: Active high

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-50	DIO edge count reset	0xA132	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: Not reset
1: Counting module 1
2: Counting module 2
3: Counting module 3
4: Counting module 4
5: All counting modules

Description:

When a counting module needs to be reset, you can clear it by selecting the corresponding value of this parameter.

Note: After the resetting the counting module, you need to reset this parameter.

0: No counting module is reset.

1: Resets the counting value of the first module.

2: Resets the counting value of the second module.

3: Reset the counting value of the third module.

4: Reset the counting value of the fourth module.

5: Reset the counting value of all modules.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-51	DIO edge counting channel selection 1	0xA133	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: None
1: DI1
2: DI2
3: DI3
4: DI4
5: DI5
6: DI6
7: DI7
8: DI8
9: DI9
10: DI10
11: VDI1
12: VDI2
13: VDI3
14: VDI4
15: VDI5
16: VDI6
17: RELAY1 (DO3)
18: FMR
19: DO1
20: RELAY2 (DO4)
21: DO2
22: VDO1
23: VDO2
24: VDO3
25: VDO4
26: VDO5
27: VDO6
28: VDO7
29: VDO8
30: VDO9
31: VDO10
32: VDO11

Description:

This parameter is used to select the channel for the first counting module.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-52	DIO edge counting channel selection 2	0xA134	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: None 1: DI1 2: DI2 3: DI3 4: DI4 5: DI5 6: DI6 7: DI7 8: DI8 9: DI9 10: DI10 11: VDI1 12: VDI2 13: VDI3 14: VDI4 15: VDI5 16: VDI6 17: RELAY1 (DO3) 18: FMR 19: DO1 20: RELAY2 (DO4) 21: DO2 22: VDO1 23: VDO2 24: VDO3 25: VDO4 26: VDO5 27: VDO6 28: VDO7 29: VDO8 30: VDO9 31: VDO10 32: VDO11							
	Description: This parameter is used to select the channel for the second counting module.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-53	DIO edge counting channel selection 3	0xA135	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: None 1: DI1 2: DI2 3: DI3 4: DI4 5: DI5 6: DI6 7: DI7 8: DI8 9: DI9 10: DI10 11: VDI1 12: VDI2 13: VDI3 14: VDI4 15: VDI5 16: VDI6 17: RELAY1 (DO3) 18: FMR 19: DO1 20: RELAY2 (DO4) 21: DO2 22: VDO1 23: VDO2 24: VDO3 25: VDO4 26: VDO5 27: VDO6 28: VDO7 29: VDO8 30: VDO9 31: VDO10 32: VDO11							
	Description: This parameter is used to select the channel for the third counting module.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

A1-54	DIO edge counting channel selection 4	0xA136	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: None	11: VDI1	22: VDO1
1: DI1	12: VDI2	23: VDO2
2: DI2	13: VDI3	24: VDO3
3: DI3	14: VDI4	25: VDO4
4: DI4	15: VDI5	26: VDO5
5: DI5	16: VDI6	27: VDO6
6: DI6	17: RELAY1 (DO3)	28: VDO7
7: DI7	18: FMR	29: VDO8
8: DI8	19: DO1	30: VDO9
9: DI9	20: RELAY2 (DO4)	31: VDO10
10: DI10	21: DO2	32: VDO11

Description:

Used to select the channel for the fourth counting module.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-55	DIO edge counting comparison value 1	0xA137	0~65535	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

Used to set the comparison value of the first counting module.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-56	DIO edge counting comparison value 2	0xA138	0~65535	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

Used to set the comparison value of the second counting module.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-57	DIO edge counting comparison value 3	0xA139	0~65535	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

Used to set the comparison value of the third counting module.

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
A1-58	DIO edge counting comparison value 4	0xA13A	0~65535	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the comparison value of the fourth counting module.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-59	DIO edge counting module counting value 1	0xA13B	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the counted value of the first counting module.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-60	DIO edge counting module counting value 2	0xA13C	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the counted value of the second counting module.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-61	DIO edge counting module counting value 3	0xA13D	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the counted value of the third counting module.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A1-62	DIO edge counting module counting value 4	0xA13E	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the counted value of the fourth counting module.							

A2 Nameplate and Auto-tuning Parameters (1) of Motor 2

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-00	Motor type	0xA200	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Asynchronous motor 1: Variable frequency asynchronous motor 2: Permanent magnet synchronous motor 3: Reluctance motor 4: Electromagnetic coil							
	Description: This parameter is used to set the motor type. 0: Normal asynchronous motor A common asynchronous motor is suitable for applications with normal voltage but often full load. Common asynchronous motors cannot meet all the frequency control requirements. 1: Variable frequency asynchronous motor A variable frequency motor can adjust its frequency and speed according to the load. When the voltage is low, the variable frequency motor can reduce the frequency for a reliable start. When the load is light, it can reduce the frequency, speed, and current to save electric energy. 2: Permanent magnet synchronous motor The permanent magnet synchronous motor provides excitation with a permanent magnet. It features simple structure, small size, high efficiency, and high power factor. 3: Reluctance motor without permanent magnet The reluctance motor is a synchronous motor without permanent magnet, whose torque output is totally from the magnetic reluctance torque generated from q-axis and d-axis inductance difference. 4: Electromagnetic coil The electromagnetic coil is generally an inductive coil used for applications such as electromagnetic suction force and heating.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-01	Rated motor power	0xA201	0.1kW~1000.0kW	3.7kW	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter indicates the power of the motor during normal operation. The rated power of the motor is the rated voltage x rated current of the motor. Select a motor with a proper power rating on the premise that the motor can meet the requirements of mechanical load. Take the motor heat dissipation, allowable overload capacity, and starting capacity into account.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-02	Rated motor voltage	0xA202	1V~2000V	380V	Unsigned	Shutdown	General	Effective

					16 bit	change	user	in real time
	Description: The rated motor voltage indicates the voltage of the motor during normal operation, which usually refers to the line voltage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-03	Rated motor current	0xA203	0.01A~655.35A	9.00A	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated motor current indicates the current of the motor during normal operation, which usually refers to the line current. 0.01 A~655.35 A (power ⩽ 55 kW) 0.1 A~6553.5 A (power ＞ 55 kW)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-04	Rated motor frequency	0xA204	0.01Hz~F0-10	50.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated motor frequency indicates the frequency of the power supply connected to the stator winding under the rated operation conditions of the motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-05	Rated motor speed	0xA205	1rpm~65535rpm	1460rpm	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated motor speed indicates the speed (in the unit of rpm) of the rotor under the rated operating conditions.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-06	Asynchronous motor stator resistance	0xA206	0.001Ω~65.535Ω	1.204Ω	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter indicates the DC resistance of stator winding of the asynchronous motor. This parameter can be obtained through motor auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-07	Asynchronous motor rotor	0xA207	0.001Ω~65.535Ω	0.908Ω	Unsigned 16 bit	Real time changes	General user	Effective in real

	resistance							time
	Description: The motor rotor resistance is the DC resistance of the motor rotor winding, which can be obtained through motor static or dynamic auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-08	Asynchronous motor leakage inductance	0xA208	0.01mH~655.35mH	5.28mH	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The leakage inductance of the asynchronous motor is caused by the leakage flux of motor winding. This parameter can be obtained through motor auto-tuning or dynamic motor auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-09	Asynchronous motor mutual inductance	0xA209	0.1mH~6553.5mH	156.8mH	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the current in one coil of the motor changes, induced EMF is generated in the coil adjacent to it. This mutually induced EMF can be expressed by mutual inductance. The mutual inductance of a motor can be roughly divided into two types. One is the inter-phase inductance of the stator or rotor, which is the reactance between two phases of the stator or rotor. The other is the inductance between the stator and the rotor. The inductance of the first type does not change with the rotation of the rotor, whereas the inductance of the second type changes accordingly with the rotation of the rotor. Both types are motor mutual inductance, which can be obtained through dynamic motor auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-10	Asynchronous motor no-load current	0xA20A	0.01A~A2-03	4.20A	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the current that passes through the three-phase winding of the stator during no-load operation of the asynchronous motor. The parameter can be obtained by dynamic motor auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-16	Synchronous motor stator resistance	0xA210	0.001Ω~65.535Ω	1.204Ω	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the DC resistance of stator winding of the synchronous motor. This parameter can be obtained through motor auto-tuning.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
A2-17	Synchronous motor D axis inductance	0xA211	0.01mH~655.35mH	5.28mH	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the inductance of main pole axis (longitudinal axis) of synchronous motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-18	Synchronous motor Q axis inductance	0xA212	0.01mH~655.35mH	5.28mH	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the inductance of the center line (quadrature axis) between the adjacent magnetic pole axes of synchronous motor rotor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-20	Synchronous motor back EMF coefficient	0xA214	0.0V~6553.5V	350.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the RMS value of the motor back EMF at the rated frequency (A2-04).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-27	Encoder PPR	0xA21B	1~65535	1024	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Sets the number of ABZ encoder PPR (total AB pulses per revolution/4), or sine-cosine encoder string waves per revolution. In the FVC mode, the encoder PPR mus be set properly. Otherwise, the motor cannot run normally.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-28	Encoder type	0xA21C	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: ABZ incremental encoder 1: 23-bit encoder 2: Resolver 3: External input 4: Sin-Cos encoder							
	Description: After installing the PG card, set F1-28 properly to ensure normal operation of the drive. 0: ABZ incremental encoder 1: 23-bit encoder							

	2: Resolver 3: External input 4: Sin-cos encoder

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-29	Speed feedback PG card	0xA21D	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Main PG card 1: Auxiliary PG card							
	Description: Used to select the speed measuring angle source. When a main PG card is used for speed measurement, select 0. When an auxiliary PG card is used for speed measurement, select 1. It is recommended to set use the main PG card as the speed feedback source for motor control. The auxiliary PG card can be used to obtain the processing control position/speed.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-30	A/B phase sequence of encoder	0xA21E	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Forward 1: Reverse							
	Description: In some applications, the direction of the measured encoder speed is opposite to the actual setting. You can change the encoder speed measurement phase sequence through this parameter.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-31	Encoder installation angle	0xA21F	0.0°~359.9°	0.0°	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The angle between motor zero and encoder zero used by the synchronous motor can be auto-tuned.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-33	Rated speed of high-speed motor	0xA221	0rpm~65535rpm	0rpm	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The setpoint applies when the rated speed of the high-speed motor is higher than 60000 rpm (setpoint ⩾ 6000). Otherwise							

	the setpoint of F1-05 applies. The unit is in 10 rpm.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-34	Number of resolver pole pairs	0xA222	1~65535	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: A resolver is an electromagnetic transducer, also known as a synchronous resolver. It is a small AC motor used to measure angles, and measure shaft angular displacement and angular velocity of a rotating object. It consists of stators and rotors. This parameter indicates the number of pole pairs of the resolver. The higher the number of pole pairs, the higher the precision. If a resolver is applied, set the number of pole pairs of the resolver properly.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-35	Sin-Cos encoder frequency-division output coefficient	0xA223	4~65532	4	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Indicates the number of pulses outputted by the PG card. Indicates the number of pulses outputted by the PG card per revolution of the sin-cos encoder signal.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-36	Speed feedback PG wire breakage detection time	0xA224	0.0s~10.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the open circuit detection time. If it is set to 0.0s, detection is disabled. The drive reports E020.X when an open circuit fault is detected and the fault persists after the time defined by A2-36 elapses.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-37	Motor parameter auto-tuning mode	0xA225	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: No auto-tuning 1: Static partial auto-tuning of the asynchronous motor 2: Dynamic auto-tuning of the asynchronous motor 3: Static complete auto-tuning of the asynchronous motor 4: Inertia auto-tuning 5: Dead zone auto-tuning 11: With-load auto-tuning of the synchronous motor (back EMF excluded) 12: No-load dynamic auto-tuning of the synchronous motor 13: With-load rotary auto-tuning of the synchronous motor (zero point angle excluded) 14: UV gain phase-to-phase deviation auto-tuning							
	Description:							

	For high-performance motor operation, accurate motor parameters are required. Select different motor auto-tuning modes based on the motor type to obtain motor parameters. 0: No auto-tuning Motor auto-tuning is not performed. 1: Static partial auto-tuning of the asynchronous motor This mode is applicable to scenarios where the motor cannot be disconnected from loads and dynamic auto-tuning is not feasible. In this mode, some motor parameters are auto-tuned, including F1-06 (Asynchronous motor stator resistance), F1-07 (Asynchronous motor rotor resistance), and F1-08 (Asynchronous motor leakage inductance). Others parameters use the default values. 2: Dynamic auto-tuning of the asynchronous motor This mode is applicable to scenarios requiring high-speed operation. Dynamic auto-tuning can be performed without load or with pure inertia load. Auto-tuning is performed on all the motor parameters, including F1-06 (Asynchronous motor stator resistance), F1-07 (Asynchronous motor rotor resistance), F1-08 (Asynchronous motor leakage inductance), F1-09 (Asynchronous motor mutual inductance), F1-10 (Asynchronous motor no-load current), F1-30 (Encoder phase sequence), motor inertia ratio (A9-17), and friction torque (A9-18). 3: Static complete auto-tuning of the asynchronous motor This mode is applicable to scenarios where the motor cannot be disconnected from loads and dynamic complete auto-tuning is not feasible. Auto-tuning is performed on some motor parameters, including F1-06 (Asynchronous motor stator resistance), F1-07 (Asynchronous motor rotor resistance), F1-08 (Asynchronous motor leakage inductance), F1-09 (Asynchronous motor mutual inductance), and F1-10 (Asynchronous motor no-load current). However, F1-09 and F1-10 have higher precision in the dynamic auto-tuning mode than in this mode. 4: Inertia auto-tuning This mode is applicable to scenarios requiring high-speed operation. Auto-tuning can be performed without load or with light load (below 80% of the rated load) or pure inertia load. After auto-tuning is done, A9-17 (Inertia ratio), A9-18 (Friction torque), and A9-16 (Motor time constant) are updated. 5: Dead zone auto-tuning This mode is used to tune the non-linear characteristics of the drive, thus improving the voltage output precision and operation efficiency. The auto-tuned value is saved in BF-22, and BF-23 to BF-38. 11: With-load auto-tuning of synchronous motor (back EMF excluded) This mode applies to applications where the motor cannot be disconnected from the load. The motor may rotate for several revolutions slowly during auto-tuning. Auto-tuned motor parameters include F1-06 (Motor stator resistance), F1-17 (D-axis inductance of synchronous motor), F1-18 (Q-axis inductance of synchronous motor), and F1-31 (Encoder mounting angle) in the FVC mode. F1-30 (Encoder direction) in the FVC mode is not tuned. Note: Before setting the drive to the FVC mode, change the drive to the SVC mode and check that the encoder direction is correct. Then switch the drive to the FVC mode. 12: No-load dynamic complete auto-tuning of synchronous motor This mode applies to applications where the motor can be disconnected from the load. Auto-tuned motor parameters in the FVC mode include F1-06 (Motor stator resistance), F1-17 (D-axis inductance of synchronous motor), F1-18 (Q-axis inductance of synchronous motor), F1-19 (Synchronous motor back EMF), F1-30 (Encoder phase sequence), and F1-31 (Encoder mounting angle). F1-30 and F1-31 are not tuned in other control modes. 13: With-load rotary auto-tuning of synchronous motor (zero angle excluded) This mode applies to applications where the motor cannot be disconnected from the load and dynamic complete auto-tuning is not allowed. The motor does not rotate during auto-tuning. Auto-tuned motor parameters include F1-06 (Motor stator resistance), F1-17 (Synchronous motor d-axis inductance), and F1-18 (Synchronous motor q-axis inductance).

	Encoder parameters are not tuned. Note: Before setting the drive to the FVC mode, change the drive to the SVC mode and check that the encoder direction is correct. Then switch the drive to the FVC mode. 14: UV gain phase-to-phase deviation auto-tuning The current sampling gain deviation between output phases is tuned. The tuned result is updated in FF-05 (Current sampling gain error between U-phase current and V-phase current) and FF-06 (Current sampling gain error between U-phase current and W-phase current).

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-38	Speed loop proportional gain 1	0xA226	1~300	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This is the PID control parameter Kp for the speed loop, which affects the response speed of the motor speed. A larger Kp value indicates higher sensitivity and more intensive tuning. A smaller Kp value indicates lower sensitivity and less intensive tuning. The low-speed speed loop Kp is effective at low speed.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-39	Speed loop integral time 1	0xA227	0.01s~10.00s	0.50s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The reciprocal of the speed loop integral time constant is the integral gain. The speed loop integral time constant affects the steady-state speed error of the motor and the stability of the speed loop system. If the speed loop integral time constant increases, the speed loop response slows down. For quicker response, a larger speed loop proportional gain is required. The low speed loop Ti is used at low speed.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-40	Switchover frequency 1	0xA228	0.00Hz~A2-43	5.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Speed loop PI parameters are divided into low-speed and high-speed groups. When the running frequency is lower than A2-40 (Switching frequency 1), the speed loop PI is adjusted by A2-38 and A2-39. When the running frequency is higher than A2-43 (Switching frequency 2), the speed loop PI is adjusted by A2-41 and A2-42. If the running frequency is between switchover frequency 1 and switchover frequency 2, the speed loop PI parameters switch linearly between the two groups of PI parameters. The parameter value must be lower than A2-43 (Switching frequency 2).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-41	Speed loop proportional gain 2	0xA229	1~300	20	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	The greater the Kp value, the higher the adjustment sensitivity and the adjustment strength. The smaller the Kp value, the lower the adjustment sensitivity and the adjustment strength.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-42	Speed loop integral time 2	0xA22A	0.01s~10.00s	1.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The speed loop integral time constant affects the steady-state speed error of the motor and the stability of the speed loop system. Increasing the speed loop integral time constant slows down the response of the speed loop. In this case, increase the speed loop proportional gain to shorten the response time of the speed loop.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-43	Switchover frequency 2	0xA22B	A2-40~F0-10	10.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Speed loop PI parameters are divided into low-speed and high-speed groups. When the running frequency is lower than A2-40 (Switching frequency 1), the speed loop PI is adjusted by A2-38 and A2-39. When the running frequency is higher than A2-43 (Switching frequency 2), the speed loop PI is adjusted by A2-41 and A2-42. If the running frequency is between switchover frequency 1 and switchover frequency 2, the speed loop PI parameters switch linearly between the two groups of PI parameters. This parameter must be set to a value lower than switchover frequency 1 (A2-40).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-44	Vector control slip gain	0xA22C	50%~200%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: In the SVC mode, this parameter is used to adjust the speed stability accuracy of the motor. For example, when the running frequency of the motor is lower than the output frequency of the AC drive, you can increase the value of this parameter. In the FVC mode, this parameter is used to adjust the output current of the AC drive with the same load. For example, if the load capacity of a high-power AC drive is weak, decrease the value of this parameter gradually. No adjustment is required under normal circumstances.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-45	Speed feedback filter time in SVC mode	0xA22D	0.000s~0.100s	0.015s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: In the SVC mode (A2-62 = 0), the speed loop feedback filter time is effective. Adjusting the parameter can improve the motor stability. Increasing the value of this parameter enhances motor stability but slows down the dynamic response speed. Decreasing the value of this parameter speeds up dynamic response. Note that an excessively low value will lead to motor							

	oscillation. The default value of this parameter applies to most of applications.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-47	Torque upper limit source in speed control mode (motoring)	0xA22F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: A2-48 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication setting 6: Min. (AI1, AI2) 7: Max. (AI1, AI2) Others: F connector							
	Description: This parameter allows you to set the torque upper limit source in the motorized state and in the speed control mode. The details are as follows: 0: F2-10 The torque upper limit in speed control is set by F2-10 (Digital setting of torque limit in speed control). 1: AI1 The torque upper limit is input by current or voltage signal through the AI1. The torque is calculated according to the preset AI curve. 2: AI2 The torque upper limit is input by current or voltage signal through the AI2. The torque is calculated according to the preset AI curve. 3: AI3 The torque upper limit is input by current or voltage signal through the AI3. The torque is calculated according to the preset AI curve. 4: Pulse reference (DI5) The torque upper limit in speed control mode is set through the DI5. The torque is calculated based on the curve of the relationship between the pulse frequency and running frequency. 5: Communication The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment. 6: Min. (AI1, AI2) The torque upper limit in speed control mode is the smaller value between AI1 and AI2 inputs. 7: Max. (AI1, AI2) The torque upper limit in speed control mode is the larger value between AI1 and AI2 inputs. Others: F connector Read the connector value through setting the parameter No. of a float connector. The value being read is used as the motoring torque upper limit reference in speed control. It is used for extension of common sources. The full range of options other than 0 is the value of F2-10. The motor is in the motoring state when the actual running direction of the motor is the same as the torque direction. The motor is in the generating state when the actual running direction of the motor is opposite to the torque direction.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-48	Torque upper limit in speed control mode	0xA230	0.0%~600.0%	150.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Digital setting of torque limit in speed control mode							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-49	Torque upper limit source in speed control mode (generating)	0xA231	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Digital setting (A2-48) 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Communication 6: Min. (AI1, AI2) 7: Max. (AI1, AI2) 8: Digital setting (A2-50) Others: F connector							
	Description: This parameter allows you to set the torque upper limit source in the power generation state and speed control mode. The details are as follows: 0: F2-10 The torque upper limit in speed control is set by F2-10 (Digital setting of torque limit in speed control). 1: AI1 The torque upper limit is input by current or voltage signal through the AI1. The torque is calculated according to the preset AI curve. 2: AI2 The torque upper limit is input by current or voltage signal through the AI2. The torque is calculated according to the preset AI curve. 3: AI3 The torque upper limit is input by current or voltage signal through the AI3. The torque is calculated according to the preset AI curve. 4: Pulse reference (DI5) The torque upper limit in speed control mode is set through the DI5. The torque is calculated based on the curve of the relationship between the pulse frequency and running frequency. 5: Communication The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment. 6: Min. (AI1, AI2) The torque upper limit in speed control mode is the smaller value between AI1 and AI2 inputs. 7: Max. (AI1, AI2) The torque upper limit in speed control mode is the larger value between AI1 and AI2 inputs.							

	8: Digital setting (F2-12) The torque upper limit in speed control mode is set by A2-50 (digital setting of torque upper limit in speed control). Others: F connector Read the connector value through setting the parameter No. of a float connector. The value being read is used as the generating torque upper limit reference in speed control. It is used for extension of common sources. The full range of options other than 0 and 8 is the value of F2-12. The motor is in the motoring state when the actual running direction of the motor is the same as the torque direction. The motor is in the generating state when the actual running direction of the motor is opposite to the torque direction.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-50	Torque upper limit in speed control mode (generating)	0xA232	0.0%~600.0%	150.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Digital setting of torque upper limit in speed control mode							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-56	Synchronous motor current loop mode	0xA238	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: No field weakening 1: Automatic adjustment mode 2: Calculation+Automatic adjustment 3: Synchronous motor normal mode 4: Asynchronous motor normal mode							
	Description: This parameter can be used to set the current loop mode in different ways. It can be changed according to the conditions on the site. Generally, it is not required. 0: No field weakening In this mode, the max. motor speed is related to the bus voltage of the drive. The advantage is that the output current is low under the same load. The disadvantage is that the operating frequency cannot reach the set frequency. If high motor speed is needed, do not use this mode. 1: Auto-tuning mode This mode is simple and reliable. In applications requiring quick field weakening, increase the value of F2-19 properly. Note that setting F2-19 to an excessively high value may cause unstable current. 2: Calculation+Automatic adjustment This mode feature quick speed and applies to applications where the automatic adjustment mode cannot meet demands. 3: Synchronous motor normal mode This mode applies to high-speed operation of synchronous motor. 4: Synchronous motor normal mode This mode applies to field weakening operation of asynchronous motor.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
A2-57	Field weakening gain	0xA239	0.1~200.0	3.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing the setpoint improves the dynamic response, but an excessively high setpoint may cause current oscillation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-60	Generating power limiting	0xA23C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled in the whole process 2: Enabled at constant speed 3: Enabled during deceleration							
	Description: This parameter sets the range of the generating power limit. 0: Inactive Generating power limit inactive 1: Active throughout the process Generating power limit activated throughout the process 2: Active during operating at constant speed Generating power limit activated during operation at constant speed 3: Active during decelerated operation Generating power limit activated during decelerated operation							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-61	Generating power upper limit	0xA23D	0.0%~200.0%	20.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: A2-61 is a percentage to the rated motor power. If overvoltage still occurs after you set the generating power limit, decrease the value of A2-61.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-62	Motor 2 control mode	0xA23E	Refer to "Value"	2	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: SVC 1: FVC							

	2：V/f
	Description： Set different control modes based on the field application. 0: Sensorless vector control (SVC) Indicates open-loop vector control, which is applicable to high-performance control applications. In this case, one AC drive can drive only one motor. This mode applies to such loads as machine tools, centrifuges, wire drawing machines, and injection molding machines. 1: Feedback vector control (FVC) Indicates closed-loop vector control. The motor must be configured with an encoder and the AC drive provides the PG card (optional) matching the encoder type. This mode is applicable to high-accuracy speed control or torque control applications, where one AC drive can drive only one motor. It is used for loads such as high-speed paper-making machinery, hoisting machinery, and elevators. 2: V/f control (open loop speed control) The V/f control mode is applicable to applications that require undemanding control performance on loads, such as fans and pumps. If one AC drive is used to control multiple motors, only the V/f control mode can be used.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-64	Torque boost	0xA240	0.0%~30.0%	2.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： The torque boost function is generally applicable to low-frequency operations of the drive. The output torque of the AC drive in the V/f control mode is proportional to the frequency. During operation at low frequencies, the motor torque is low when the motor runs at a low speed. In this case, you can set this parameter to increase the output voltage of the drive to improve the output torque. Note that the torque boost value must be set properly. Otherwise, overload protection will be triggered.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-66	V/f oscillation suppression gain	0xA242	0~100	40	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： In V/f mode, for most motors, speed and current oscillation will occur at low frequency, which may lead to overcurrent of the AC drive. Oscillation can be eliminated by enabling oscillation suppression.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-67	Initial position angle detection current of synchronous motor	0xA243	50~180	80	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description： The lower the current, the lower the noise generated during detection. Note that excessively low current may lead to inaccurate detection. Do not modify the default value in FVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-68	Initial position angle detection of synchronous motor	0xA244	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Detected upon running 1: Not detected 2: Detected upon initial running after power-on							
	Description: The initial position angle detection can be used to prevent reverse run during start, which may result in noise. Set A2-68 in applications where the motor rotor position changes after stop and reverse run is inhibited upon start. In other applications, it can be set to 1 or 2.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-70	Salient pole rate adjustment gain of synchronous motor	0xA246	0.20~3.00	1.00	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Set A2-71 to 1. If the output current does not decrease or even increase under the same load, adjust A2-70. When the load does not change, adjust A2-70 until the minimum output current is reached.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-71	Maximum torque-to-current ratio control of synchronous motor	0xA247	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: When the salient-pole motor is switched on, the output current decreases under the same load. This function enables the control of the maximum torque-current ratio. 0: Disable 1: Enable							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-75	Z signal correction	0xA24B	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value:							

	0： Disabled 1： Enabled
	Description： Activated when ABZ encoder of the synchronous motor is used in FVC mode. Pulse loss or excessive pulses may be occur on the incremental ABZ encoder during operation due to interference, which may lead to orientation error of the synchronous motor, insufficient force output, or even runaway fault. After this function is enabled, the drive corrects the orientation angle based on Z signal to ensure reliability of long-term operation. 0: OFF Turn off Z signal correction. 1: ON Turn on Z signal correction.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-80	Low speed carrier frequency	0xA250	0.5kHz~F0-15	2.0kHz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： This parameter is used to set the carrier frequency of the motor at low speed to lower the motor noise in the V/f or FVC mode. The carrier frequency is the smaller one between F0-15 and A2-80. When the value of A2-80 is greater than or equal to 4 kHz, the value of A2-80 is active. When the value of A2-80 is lower than 4 kHz, 4 kHz is used.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-86	Position lock	0xA256	0~1	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： 0: OFF 1: ON							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-87	Switchover frequency	0xA257	0.00Hz~A2-40	0.30Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Defines the position lock switchover frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-88	Position lock speed loop proportional gain	0xA258	1~100	10	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Defines the speed loop proportional gain when the operating frequency is lower than the position lock switchover							

	frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-89	Position lock speed loop integral time	0xA259	0.01s~10.00s	0.50s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop integral time when the operating frequency is lower than the position lock switchover frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-92	Motor tuning-free mode	0xA25C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Off 1: Enabled before initial operation after power-on 2: Enabled before operation							
	Description: Used to auto-tune synchronous motor parameters before start (including stator resistance, magnetic pole position, D/Q-axis inductance and saturation model). The current starting time increases after this function is enabled. 0: Off 1: Enabled before initial operation after power-on 2: Enabled before operation							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-93	Encoder direction auto-tuning and pre-positioning current	0xA25D	0.0%~800.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the control current for encoder direction auto-tuning and pre-positioning auto-tuning, which is based on the rated motor current. The active current value is the set current value and the minimum value in the rated current of the drive.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A2-94	Initial position compensation angle	0xA25E	0.0~359.9	0.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the initial position compensation angle.							

A3 V/f Control Parameters of Motor 2

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-00	V/f curve setting	0xA300	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Linear V/f 1: Multi-point V/f 2: Reserved 3: Reserved 4: Reserved 5: Reserved 6: Reserved 7: Reserved 8: Reserved 9: Reserved 10: V/f fully separated mode 11: V/f partially separated mode							
	Description: Used to set the V/f curve. In V/f mode, different V/f curves can be set according to different application conditions. 0: Linear V/f The output voltage and output frequency change linearly when below the rated frequency. It is applicable to general mechanical drive applications such as large inertia fan acceleration, punch presses, centrifuges and water pumps. 1: Multi-point V/f curve The range of the frequency point is 0.00 Hz to the rated motor frequency. The range of the voltage point is 0.0% to 100.0%, which corresponds to 0 V to the rated motor voltage. Set the multi-point V/f curve based on motor's load characteristic. Observe this formula during settings: A3-03 ≤ A3-05 ≤ A3-07 10: V/f fully separated mode The output frequency and output voltage of the AC drive are independent. The output frequency is determined by the frequency source, and the output voltage is determined by the voltage source for V/f separation. This curve applies to torque motor control applications. 11: V/f partially separated mode In this mode, V and f are proportional. The relationship between V and f is also related to the rated motor voltage and rated motor frequency in group motor 1. The relationship between the output voltage of the drive (V) and frequency (f) is as follows: V/f = 2 x (Voltage source input) x (Rated motor voltage)/(Rated motor frequency). Note: The input value of the voltage source is 0 to 100%.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-01	Torque boost	0xA301	0.0%~30.0%	3.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The torque boost function is generally applicable to low-frequency operations of the drive. The output torque of the AC drive in the V/f control mode is proportional to the frequency. During operation at low frequencies, the motor torque is low when the motor runs at a low speed. In this case, you can set this parameter to increase the output voltage of the drive to improve the output torque. Note that the torque boost value must be set properly. Otherwise, overload protection will be triggered.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
A3-02	Cut-off frequency of torque boost	0xA302	0.00Hz~F0-10	50.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the running frequency reaches the cutoff frequency of torque boost, the torque boost function is disabled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-03	Multi-point V/f frequency 1	0xA303	0.00Hz~A3-05	0.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the frequency point 1 of multi-point V/f curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-04	Multi-point V/f voltage 1	0xA304	0.0%~100.0%	0.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the voltage point 1 of multi-point V/f curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-05	Multi-point V/f frequency 2	0xA305	A3-03~A3-07	0.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the frequency point 2 of multi-point V/f curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-06	Multi-point V/f voltage 2	0xA306	0.0%~100.0%	0.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the voltage point 2 of multi-point V/f curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-07	Multi-point V/f frequency 3	0xA307	A3-05~A2-04	0.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the frequency point 3 of multi-point V/f curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-08	Multi-point V/f voltage 3	0xA308	0.0%~100.0%	0.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the voltage point 3 of multi-point V/f curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-09	V/f slip compensation gain	0xA309	0.0~6553.5	0.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: In V/f mode, increasing the output frequency compensates for the motor speed deceleration. A higher gain indicates a higher compensation frequency. However, an excessively high gain can incur overcompensation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-10	V/f over-excitation gain	0xA30A	0~200	64	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: A larger over-excitation gain indicates better suppression effect. When a braking resistor, braking unit, or energy feedback unit is used, set this parameter to 0. Otherwise, overcurrent may occur during operation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-11	V/f oscillation suppression gain	0xA30B	0~100	40	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The higher the vibration gain, the better the suppression performance.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-12	V/f oscillation suppression	0xA30C	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: In V/f mode, for most motors, speed and current oscillation will occur at low frequency, which may lead to overcurrent of the AC drive. Oscillation can be eliminated by enabling oscillation suppression.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-13	Voltage source for separated V/f	0xA30D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: Digital setting (A3-14)
1: AI1
2: AI2
3: AI3
4: Pulse reference (DI5)
5: Multi-reference
6: Simple PLC
7: PID
8: Communication
Others: F connector

Description:

Defines the target voltage reference source in case of separated V/f.

0: Digital setting (A3-14)

The V/f separation voltage is set by A3-14.

1: AI1

The V/f separation voltage is inputted by current or voltage signal through the AI1. The frequency is calculated according to the AI curve.

2: AI2

The V/f separation voltage is inputted by current or voltage signal through the AI2. The frequency is calculated according to the AI curve.

3: AI3

The V/f separation voltage is inputted by current or voltage signal through the AI3. The frequency is calculated according to the AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card.

4: The Pulse reference (DI5)

The V/f separation voltage is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and running frequency.

5: Multi-reference

In multi-reference mode, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC.

6: Simple PLC

The V/f separation voltage is set by simple PLC. For details, see the function description of simple PLC.

7: PID

The V/f separation voltage is set through PID. For details, see descriptions of the PID function.

8: Communication

The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment.

Others: F connector

Read the connector value through setting the parameter No. of a float connector. The value being read is used as the motoring torque upper limit reference in speed control. It is used for extension of common sources.

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
A3-14	Voltage digital setting for V/f separation	0xA30E	0V~A2-02	0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the digital setting for V/f separation voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-15	Voltage rise time of V/f separation	0xA30F	0.0s~1000.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the time required for the output voltage to accelerate from 0 to the setpoint of separated V/f voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-16	Voltage decline time of V/f separation	0xA310	0.0s~1000.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the time required for the output voltage to decelerate from the setpoint of separated V/f voltage to 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-17	Stop mode for separated V/f	0xA311	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Frequency and voltage decline to 0 independently 1: Frequency declines to 0 after voltage declines to 0 2: Coast to stop (new)							
	Description: Used to select the respective stop mode of frequency/voltage. 0: The frequency/voltage declines to 0 independently based on respective deceleration time. 1: The voltage declines to 0 based on the deceleration time. Then the frequency declines to 0 based on the deceleration time. 2: The voltage/frequency coasts to stop, regardless of the deceleration curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-18	Action current of overcurrent stall suppression	0xA312	50%~200%	150%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the motor current reaches the value of this parameter, the AC drive starts the overcurrent stall function. The default							

	value is 150%, corresponding to 1.5 x the rated current of the drive.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-19	Overcurrent stall suppression	0xA313	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Determines whether the V/f overcurrent stall function is enabled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-20	Overcurrent stall suppression gain	0xA314	1~500	20	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the current exceeds the overcurrent stall action current, the overcurrent stall suppression function is triggered, and the output frequency decreases. When the current falls below the overcurrent stall threshold, the output frequency increases to the target frequency, and the actual acceleration time prolongs automatically. A larger parameter value indicates better suppression effect.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-21	Action current compensation coefficient for overcurrent stall at multiplied rated frequency	0xA315	50%~200%	100%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter reduces the overcurrent stall action current at high speed. It is invalid when set to 50%. The recommended value for A3-18 in the flux weakening area is 100%.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-22	V/f overvoltage stall suppression voltage	0xA316	330.0V~800.0V	770.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the bus voltage reaches this value, the AC drive starts the voltage limit function.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

A3-23	V/f overvoltage stall suppression	0xA317	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Used to enable/disable the V/f overvoltage stall suppression. 0: Disabled 1: Enabled (overvoltage stall gain activated by default) The function of A3-23 is the same as B6-39 (Overvoltage stall protection voltage). When a braking resistor, braking unit, or energy feedback unit is used, set this parameter to 0. Otherwise, the deceleration time may be prolonged.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-24	V/f frequency gain for voltage limit	0xA318	1~500	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing A3-24 improves the control effect of bus voltage, but the output frequency will fluctuate. If the output frequency fluctuates greatly, reduce A3-24 appropriately. The function of A3-24 is the same as F9-03 (Overvoltage stall gain).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-25	V/f overvoltage stall suppression voltage gain	0xA319	1~500	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter suppresses the bus voltage. Increasing the parameter value can reduce the overshoot of the bus voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-26	Frequency rise limit for V/f overvoltage stall suppression	0xA31A	0Hz~50Hz	5Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The running frequency may increase when the voltage limit function is enabled. This parameter limits the increase of the running frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-27	Slip compensation filter time	0xA31B	0.1s~10.0s	0.5s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description:							

	Time constant of slip compensation frequency The larger the time constant is, the more stable the frequency of the slip compensation is, and the less the frequency is affected by load disturbance and noise. However, the response to load changes will be slower.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-28	Multi-point curve source	0xA31C	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: 3-point curve 1: Multi-point curve module A 2: Multi-point curve module B							
	Description: Used to select the multi-point curve. 0: 3-point curve The 3-point curve applies by default, which is set by A3-03...A3-08. 1: Multi-point curve module A The free module A output is used as multi-point curve setting. 2: Multi-point curve module B The free module B output is used as multi-point curve setting.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-33	Online torque compensation gain	0xA321	80~150	100	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: In V/f mode, A3-01 increases the output voltage of the AC drive according to a fixed curve. When A3-33 ⩾ 100 or A3-01 = 0, an additional boost related to the load magnitude can be superimposed to the output voltage that has already been boosted based on A3-01, which is automatic torque boost compensation. The higher the gain of A3-33, the higher the torque boost compensation. When A3-33 < 100 and A3-01 ≠ 0, the automatic torque boost compensation is disabled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-34	IMaxKI coefficient	0xA322	10%~1000%	100%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the current filter time upon slip compensation without PG of asynchronous motor in V/f mode The shorter the filter time, the faster the response speed of slip compensation. However, an excessively short filter time may lead to oscillation. The longer the filter time, the slower the slip compensation speed, and the more stable the adjustment process will be.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-35	Overcurrent stall	0xA323	80%~300%	200%	Unsigned	Shutdown	General	Effective

	suppression threshold (rated current of motor)				16 bit	change	user	in real time
	Description: When the asynchronous motor operates in V/f mode, the slip exists between the rotor speed and synchronous frequency, which can cause low motor speed precision. In this case, the heavier the load, the lower the speed precision. The slip compensation can be used to compensate for the speed change to improve the speed precision. The slip compensation with PG is applicable to applications with motor encoder. The output frequency is compensated based on the speed feedback from the encoder, which features high precision. In absence of an encoder, use slip compensation without PG to perform compensation based on the load current, which features lower precision compared with the slip compensation with PG.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-36	Frequency for activating field weakening upon overcurrent stall suppression	0xA324	100%~500%	100%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the motor operates at a frequency higher than this setpoint, the target current of overcurrent suppression drops in reverse proportion. The current oscillate when entering the field weakening area. In this case, lower this frequency threshold properly.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-37	IT filter time	0xA325	10ms~1000ms	100ms	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the current filter time upon slip compensation without PG of asynchronous motor in V/f mode The shorter the filter time, the faster the response speed of slip compensation. However, an excessively short filter time may lead to oscillation. The longer the filter time, the slower the slip compensation speed, and the more stable the adjustment process will be.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-38	Slip compensation mode	0xA326	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Slip compensation without PG 2: Slip compensation with PG							
	Description: When the asynchronous motor operates in V/f mode, the slip exists between the rotor speed and synchronous frequency, which can cause low motor speed precision. In this case, the heavier the load, the lower the speed precision. The slip							

	compensation can be used to compensate for the speed change to improve the speed precision. The slip compensation with PG is applicable to applications with motor encoder. The output frequency is compensated based on the speed feedback from the encoder, which features high precision. In absence of an encoder, use slip compensation without PG to perform compensation based on the load current, which features lower precision compared with the slip compensation with PG.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-39	Permissible overvoltage suppression time in V/f mode	0xA327	0.0s~100.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Permissible overvoltage suppression time							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-40	Upper limit of V/f separation voltage	0xA328	50.0%~200.0%	100.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the upper limit of V/f separation voltage, which takes the rated motor voltage as the basis.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-41	Frequency RFG time of V/f separation	0xA329	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: RFG time forced to 0 1: Preset RFG time							
	Description: Used to select the RFG time of V/f separation frequency. The setpoint 0 indicates the acceleration/deceleration time of the frequency reference is forced to 0. The setpoint 1 indicates the acceleration/deceleration is set based on normal operation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-42	Cut-off frequency of V/f oscillation suppression filter	0xA32A	1.0Hz~50.0Hz	8.0Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The motor may oscillate due to mechanical resonance in V/f mode. The system damping can be improved through vibration suppression algorithm. The oscillation frequency can be suppressed only when it is higher than the cut-off frequency of the oscillation suppression filter.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

A3-43	Cut-off frequency for active V/f oscillation suppression	0xA32B	10Hz~3000Hz	200Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The oscillation suppression is not activated when the motor speed is higher than this cut-off frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-44	Overvoltage suppression feedforward coefficient in V/f mode	0xA32C	0%~500%	0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to boost the synchronous frequency to prevent overvoltage caused by slow response when entering overvoltage suppression in V/f mode. The higher the setpoint, the better the dynamic responsiveness. However, an excessively high setpoint may result in motor oscillation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-45	Synchronous motor IF selection	0xA32D	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Used to enable synchronous motor IF.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-46	Synchronous motor IF current	0xA32E	0.0%~200.0%	50.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set synchronous motor IF.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-47	Synchronous motor IF switchover frequency	0xA32F	0.0%~100.0%	2.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set synchronous motor IF switchover frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-48	Hysteresis frequency for synchronous motor IF switchover	0xA330	0.0%~100.0%	2.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description:							

	Used to set hysteresis frequency for synchronous motor IF switchover.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-49	Synchronous motor IF current switchover time	0xA331	0.001s~20.000s	0.100s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set synchronous motor IF current switchover time.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-50	PMVVC low-speed IF	0xA332	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: When this function is enabled, the motor switches to IF operation mode during operating at the speed defined by A3-51. The switchover speed is defined by A3-52. The function applies to applications requiring high torque at low speed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-51	PMVVC low-speed IF current	0xA333	30~250	100	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the current during low-speed IF operation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-52	PMVVC low-speed IF speed switching threshold	0xA334	2.0%~100.0%	10.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When A3-50 is enabled, the IF mode applies when this threshold is not reached; the V/f mode applies when this threshold is reached.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-53	PMVVC oscillation suppression gain coefficient	0xA335	0~500	100	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter specifies oscillation suppression gain in PMVVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-54	PMVVC filter time coefficient	0xA336	0~500	100	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the filter time constant in PMVVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-55	PMVVC energy conservation control mode	0xA337	Refer to "Value"	2	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Fixed linear V/f curve 1: Fixed 30% reactive current 2: MTPA control							
	Description: Used to select the energy-saving control mode in VVC mode of the synchronous motor. 0: Fixed linear V/f curve 1: Fixed 30% reactive current 2: MTPA control maximum torque-to-current ratio and maximum torque output per unit current							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-56	VVC current loop adaptation coefficient	0xA338	0%~1000%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust VVC current loop strength and weakness.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-57	MTPA adaptation coefficient of VVC	0xA339	0%~1000%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust the intensity of VVC energy-saving control.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-60	SFC control enable switch	0xA33C	0~1	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description:							

	When this function is turned on, the original synchronous motor VVC mode will switch to stator magnetic linkage orientation control.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-61	SFC control weak magnetic integral	0xA33D	0~1000	200	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the field weakening controller integral coefficient in stator magnet linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-62	SFC control M-axis ratio	0xA33E	1~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the M-axis controller proportional coefficient in stator linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-63	SFC control M-axis integral	0xA33F	1~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the M-axis controller integral coefficient in stator magnetic linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-64	SFC control T-axis ratio	0xA340	1~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the T-axis controller proportional coefficient in stator magnetic linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-65	SFC control T-axis integral	0xA341	1~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the T-axis controller integral coefficient in stator magnetic linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-66	Flux lower limit of SFC	0xA342	0%~1000%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real

								time
	Description: Defines the minimum allowable flux output in stator flux linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-67	Waiting time of SFC switchover	0xA343	0ms~10000ms	0ms	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the waiting time for IF switch-in of SFC in stator magnet linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-68	Flux coefficient setpoint of SFC	0xA344	0%~1000%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust target output flux in stator linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-69	Coil control mode	0xA345	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: V/f separation active 1: IF separation active							
	Description: Used to define whether to use V/f separation or IF separation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-70	Voltage source for coil IF separation	0xA346	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Digital setting (A3-71) 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Multi-reference 6: Simple PLC 7: PID 8: Communication Others: F connector							
	Description: Defines the target current reference source when the coil current and frequency are separated. 0: Digital setting (F3-14) F3-14 is used as the source.							

1: AI1

The IF separation current is inputted by current or voltage signal through AI1. The frequency is calculated according to the AI curve.

2: AI2

The IF separation current is inputted by current or voltage signal through AI2. The frequency is calculated according to the AI curve.

3: AI3

The IF separation voltage is inputted by current or voltage signal through AI3. The frequency is calculated according to the AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card.

4: Pulse reference (DI5)

The IF separation voltage is set through DI5. The frequency is calculated based on the relationship curve between the pulse frequency and running frequency.

5: Multi-reference

In multi-reference mode, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC.

6: Simple PLC

The IF separation voltage is set by simple PLC. For details, see the function description of simple PLC.

7: PID

The IF separation voltage is set through PID. For details, see descriptions of the PID function.

8: Communication

The IF separation current is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment.

Others: F connector

Read the connector value through setting the parameter No. of a float connector. The value being read is used as the IF separation current in speed control. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-71	Current reference for coil IF separation	0xA347	1.00%~120.00%	20.00%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the current reference value in IF control mode in percentages.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-72	Voltage rise time for coil IF separation	0xA348	0.000s~65.000s	0.000s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The current rise time of the IF separation is the time required for the output current to accelerate from 0 to the motor rated current.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-73	Current fall time for coil IF separation	0xA349	0.000s~65.000s	0.000s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The current fall time of the IF separation is the time required for the output current to accelerate from 0 to the motor rated current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-74	Max. current value for coil IF separation	0xA34A	1.00%~120.00%	100.00%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the max. current limit in IF control mode in percentages.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-75	Stop mode for coil IF separation	0xA34B	Refer to "Value"	2	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Frequency and voltage declined to 0 independently 1: Frequency declined to 0 after current declined to 0 2: Coast to stop							
	Description: Used to select the respective stop modes for the coil current and frequency. 0: The frequency/current declines to 0 independently based on respective deceleration time. 1: The current declines to 0 based on the deceleration time. Then the frequency declines to 0 based on the deceleration time. 2: The current/frequency coasts to stop, regardless of the deceleration curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-76	PM observer stator resistance coefficient	0xA34C	0%~1000%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the PM observer stator resistance ratio.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-77	Waiting time of PM observer auto-tuning	0xA34D	0s~1000s	0s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: Defines the waiting time of PM observer online auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-78	Coil IF separation current control coefficient	0xA34E	1~1000	50	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the current control coefficient in IF control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-79	Coil IF separation sub-controller switch	0xA34F	0~1	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the enable switch for negative sequence controller in IF control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-80	Proportional coefficient of coil IF separation sub-controller	0xA350	1%~1000%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the negative sequence controller proportional coefficient in IF control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-81	Integral coefficient of coil IF separation sub-controller	0xA351	1%~1000%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the negative sequence controller integral coefficient in IF control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-82	Voltage limit of coil IF separation sub-controller	0xA352	1%~100%	40%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the output voltage limit for negative sequence controller in IF control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-83	Coil transformer change ratio	0xA353	1.0~100.0	1.0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real

								time
	Description: Coil transformer change ratio							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-85	Synchronous motor observer switchover	0xA355	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Mode 0 1: Mode 1							
	Description: Synchronous motor observer mode switchover 0: Mode 0 New SVC observer type 1: Mode 1 Original SVC observer type							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A3-86	Switchover frequency of synchronous motor SVC model	0xA356	0.0%~100.0%	10.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
A3-87	Synchronous motor SVC model switchover hysteresis frequency	0xA357	0.0%~100.0%	5.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
A3-88	Synchronous motor SVC model parameter 0	0xA358	0~100	5	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
A3-89	Synchronous motor SVC model parameter 1 lower limit	0xA359	1~100	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
A3-90	Synchronous motor SVC model parameter 6	0xA35A	1~10	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

A4 Control Channels

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-00	Control channel	0xA400	Refer to	0	Unsigned	Real time	Expert	Effective

			"Value"		16 bit	changes	user	in real time
	Value: 0: Control channel 1 1: Control channel 2							
	Description: Used to select derivative channel. When control channel 1 is selected, A4-01 to A4-18 are active. When control channel 2 is selected, A4-21 to A4-38 are active.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-01	Custom OFF1 source	0xA401	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: This parameter defines the source of start/stop control OFF1 for custom channel 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-02	Custom OFF2 source 1	0xA402	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Active 1: Inactive 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: This parameter defines source 1 of coast to stop command OFF2 for custom channel 1. The coast to stop command OFF2 is valid if any of the three sources is active low.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

A4-03	Custom OFF3 source 1	0xA403	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Active 1: Inactive 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: This parameter defines source 1 of emergency stop command OFF3 for custom channel 1. The emergency stop command OFF3 is valid if any of the three sources is active low.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-04	Custom running permission source	0xA404	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Not permitted 1: Permitted 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: This parameter defines the running permission source for custom channel 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-05	Custom fault reset source 1	0xA405	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 1: Active 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							

	Description: This parameter defines source 1 of the fault reset command for custom channel 1. The fault reset command is valid if any of the three sources is active high.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-06	Custom JOG1 source	0xA406	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Inactive	8: DI6	14: DI12
3: DI1	9: DI7	15: DI13
4: DI2	10: DI8	16: DI14
5: DI3	11: DI9	17: DI15
6: DI4	12: DI10	18: DI16
7: DI5	13: DI11	0: B-connector

Description:
This parameter defines the source of the JOG1 command for custom channel 1.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-07	Custom JOG2 source	0xA407	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Inactive	8: DI6	14: DI12
3: DI1	9: DI7	15: DI13
4: DI2	10: DI8	16: DI14
5: DI3	11: DI9	17: DI15
6: DI4	12: DI10	18: DI16
7: DI5	13: DI11	0: B-connector

Description:
This parameter defines the source of the JOG2 command for custom channel 1.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-08	Custom speed negation source	0xA408	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Inactive	8: DI6	14: DI12
1: Active	9: DI7	15: DI13
3: DI1	10: DI8	16: DI14
4: DI2	11: DI9	17: DI15
5: DI3	12: DI10	18: DI16

	6: DI4 7: DI5		13: DI11		0: B-connector			
	Description: This parameter defines the source of the negation command for custom channel 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-10	OFF2 source 2	0xA40A	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Active 1: Inactive 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4		7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11		14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector			
	Description: This parameter defines source 2 of coast to stop command OFF2 for custom channel 1. The coast to stop command OFF2 is valid if any of the three sources is active low.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-11	OFF2 source 3	0xA40B	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Active 1: Inactive 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5		8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11		14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector			
	Description: This parameter defines source 3 of coast to stop command OFF2 for custom channel 1. The coast to stop command OFF2 is valid if any of the three sources is active low.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-12	OFF3 source 2	0xA40C	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Value: 0: Active 1: Inactive 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector
	Description: This parameter defines source 2 of emergency stop command OFF3 for custom channel 1. The emergency stop command OFF3 is valid if any of the three sources is active low.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-13	OFF3 source 3	0xA40D	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Active 1: Inactive 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: This parameter defines source 3 of emergency stop command OFF3 for custom channel 1. The emergency stop command OFF3 is valid if any of the three sources is active low.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-14	Fault reset source 2	0xA40E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 1: Active 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: This parameter defines source 2 of the fault reset command for custom channel 1. The fault reset command is valid if any of							

	the three sources is active high.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-15	Fault reset source 3	0xA40F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Inactive	8: DI6	14: DI12
1: Active	9: DI7	15: DI13
3: DI1	10: DI8	16: DI14
4: DI2	11: DI9	17: DI15
5: DI3	12: DI10	18: DI16
6: DI4	13: DI11	0: B-connector
7: DI5		

Description:

This parameter defines source 3 of the fault reset command for custom channel 1. The fault reset command is valid if any of the three sources is active high.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-16	RFG inhibition source	0xA410	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Active	8: DI6	14: DI12
1: Inactive	9: DI7	15: DI13
3: DI1	10: DI8	16: DI14
4: DI2	11: DI9	17: DI15
5: DI3	12: DI10	18: DI16
6: DI4	13: DI11	0: B-connector
7: DI5		

Description:

This parameter defines the RFG prohibition source for custom channel 1. When it is active low, the RFG output is set to 0.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-17	RFG pause source	0xA411	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Active	7: DI5	14: DI12
1: Inactive	8: DI6	15: DI13
2: Terminal function input	9: DI7	16: DI14
3: DI1	10: DI8	17: DI15

	4: DI2 5: DI3 6: DI4 11: DI9 12: DI10 13: DI11 18: DI16 0: B-connector							
	Description: Defines the RFG pause source for custom channel 1. When "active low" applies, RFG calculation pauses to maintain the current output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-18	Source of setting RFG reference to 0	0xA412	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Active 1: Inactive 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: Defines the source for setting RFG to zero for custom channel 1. When "active low" applies, the RFG input target is set to zero.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-21	Custom OFF1 source	0xA415	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: This parameter defines the source of start/stop control OFF1 for custom channel 2.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-22	Custom OFF2 source 1	0xA416	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Active	8: DI6	14: DI12
1: Inactive	9: DI7	15: DI13
3: DI1	10: DI8	16: DI14
4: DI2	11: DI9	17: DI15
5: DI3	12: DI10	18: DI16
6: DI4	13: DI11	0: B-connector
7: DI5		

Description:

Defines the source 1 for coast-to-stop command off2 for custom channel 2.

The coast-to-stop command off2 is valid if any of the three sources is active low.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-23	Custom OFF3 source 1	0xA417	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Active	8: DI6	14: DI12
1: Inactive	9: DI7	15: DI13
3: DI1	10: DI8	16: DI14
4: DI2	11: DI9	17: DI15
5: DI3	12: DI10	18: DI16
6: DI4	13: DI11	0: B-connector
7: DI5		

Description:

Defines source 1 of emergency stop command off3 for custom channel 2.

The emergency stop command off3 is active if any of the three sources is active low.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-24	Custom running permission source	0xA418	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Not permitted	8: DI6	14: DI12
1: Permitted	9: DI7	15: DI13
3: DI1	10: DI8	16: DI14
4: DI2	11: DI9	17: DI15
5: DI3	12: DI10	18: DI16
6: DI4	13: DI11	0: B-connector
7: DI5		

Description:

This parameter defines the running permission source for custom channel 2.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-25	Custom fault reset source 1	0xA419	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 1: Active 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: Defines source 1 of the fault reset command for custom channel 2. The fault reset command is active if any of the three sources is active high.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-26	Custom JOG1 source	0xA41A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: This parameter defines the source of the JOG1 command for custom channel 2.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-27	Custom JOG2 source	0xA41B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							

	Description: This parameter defines the source of the JOG2 command for custom channel 2.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-28	Custom speed negation source	0xA41C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Inactive	8: DI6	14: DI12
1: Active	9: DI7	15: DI13
3: DI1	10: DI8	16: DI14
4: DI2	11: DI9	17: DI15
5: DI3	12: DI10	18: DI16
6: DI4	13: DI11	0: B-connector
7: DI5		

Description:

This parameter defines the source of the negation command for custom channel 2.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-30	OFF2 source 2	0xA41E	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Active	7: DI5	14: DI12
1: Inactive	8: DI6	15: DI13
2: Terminal function input	9: DI7	16: DI14
3: DI1	10: DI8	17: DI15
4: DI2	11: DI9	18: DI16
5: DI3	12: DI10	0: B-connector
6: DI4	13: DI11	

Description:

Defines source 2 of coast-to-stop command off2 for custom channel 2.

The coast-to-stop command off2 is active if any of the three sources is active low.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-31	OFF2 source 3	0xA41F	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Active	8: DI6	14: DI12
1: Inactive	9: DI7	15: DI13
3: DI1	10: DI8	16: DI14

	4: DI2 5: DI3 6: DI4 7: DI5		11: DI9 12: DI10 13: DI11		17: DI15 18: DI16 0: B-connector			
	Description: Defines source 3 of coast-to-stop command off2 for custom channel 2. The coast-to-stop command off2 is active if any of the three sources is active low.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-32	OFF3 source 2	0xA420	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Active 1: Inactive 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4		7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11		14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector			
	Description: Defines source 2 of emergency stop command off3 for custom channel 2. The emergency stop command off3 is active if any of the three sources is active low.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-33	OFF3 source 3	0xA421	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Active 1: Inactive 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5		8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11		14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector			
	Description: Defines source 3 of emergency stop command off3 for custom channel 2. The emergency stop command off3 is active if any of the three sources is active low.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-34	Fault reset source 2	0xA422	Refer to	0	Unsigned	Real time	Expert	Effective

			"Value"		16 bit	changes	user	in real time
	Value: 0: Inactive 1: Active 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: Defines source 2 of the fault reset command for custom channel 2. The fault reset command is active if any of the three sources is active high.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-35	Fault reset source 3	0xA423	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 1: Active 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: Defines source 3 of the fault reset command for custom channel 2. The fault reset command is active if any of the three sources is active high.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-36	RFG inhibition source	0xA424	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Active 1: Inactive 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							

	Description: Defines the RFG inhibition source for custom channel 2. When "active low" applies, the RFG output is set to zero.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-37	RFG pause source	0xA425	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Active	7: DI5	14: DI12
1: Inactive	8: DI6	15: DI13
2: Terminal function input	9: DI7	16: DI14
3: DI1	10: DI8	17: DI15
4: DI2	11: DI9	18: DI16
5: DI3	12: DI10	0: B-connector
6: DI4	13: DI11	

Description:
Defines the RFG pause source for custom channel 2.
When "active low" applies, RFG calculation pauses to maintain the current output.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-38	Source of setting RFG reference to 0	0xA426	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Active	7: DI5	14: DI12
1: Inactive	8: DI6	15: DI13
2: Terminal function input	9: DI7	16: DI14
3: DI1	10: DI8	17: DI15
4: DI2	11: DI9	18: DI16
5: DI3	12: DI10	0: B-connector
6: DI4	13: DI11	

Description:
Defines the source for setting RFG input to zero for custom channel 2.
When "active low" applies, the RFG input target is set to zero.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-41	Terminal start/stop module A/B	0xA429	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:
0: Module A

	1： Module B
	Description： You can configure two different terminal start/stop modes for start/stop module A/B. When terminal start/stop module A is selected, A4-43...A4-49 are active. When terminal start/stop module B is selected, A4-50...A4-57 are active.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-43	Input 1 of terminal start/stop module A	0xA42B	Refer to "Value"	2	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value：

0： Active	8： DI6	14： DI12
2： Terminal function input	9： DI7	15： DI13
3： DI1	10： DI8	16： DI14
4： DI2	11： DI9	17： DI15
5： DI3	12： DI10	18： DI16
6： DI4	13： DI11	0： B-connector
7： DI5		

Description：
Source of terminal start/stop module A input 1

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-44	Input 2 of terminal start/stop command A	0xA42C	Refer to "Value"	2	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value：

0： Active	8： DI6	14： DI12
2： Terminal function input	9： DI7	15： DI13
3： DI1	10： DI8	16： DI14
4： DI2	11： DI9	17： DI15
5： DI3	12： DI10	18： DI16
6： DI4	13： DI11	0： B-connector
7： DI5		

Description：
Source of terminal start/stop module A input 2

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-45	Input 3 of terminal start/stop command A	0xA42D	Refer to "Value"	2	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value：

	0: Active 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5		8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11		14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector			
	Description: Source of terminal start/stop module A input 3							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-46	Running permission source of terminal start/stop module A	0xA42E	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 1: Active 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4		7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11		14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector			
	Description: Operation command source of terminal start/stop module A							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-47	Fault reset source of terminal start/stop module A	0xA42F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 1: Active 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4		7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11		14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector			
	Description: Fault reset source of terminal start/stop module A							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-48	JOG1 source of	0xA430	Refer to	2	Unsigned	Real time	Expert	Effective

	terminal start/stop module A		"Value"		16 bit	changes	user	in real time
	Value: 0: Active 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: JOG1 source of terminal start/stop module A							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-49	JOG2 source of terminal start/stop module A	0xA431	Refer to "Value"	2	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Active 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: JOG2 source of terminal start/stop module A							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-50	Control mode of terminal start/stop module B	0xA432	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Two-wire mode 1 1: Two-wire mode 2 2: Three-wire mode 1 3: Three-wire mode 2							
	Description: 0: Two-wire mode 1 Two DI terminals are connected. One is used to start/stop the AC drive in forward run mode, and the other is used to start/stop the AC drive in reverse run mode. 1: Two-wire mode 2							

	Two DI terminals are connected. One is used to start/stop the AC drive, and the other is used to control the running direction. 2: Three-wire mode 1 Three DI terminals are connected. One is used to start/stop the AC drive, and the other two are used to control the running direction. 3: Three-wire mode 2 Three DI terminals are connected. One is used to start the AC drive, one is used to stop the AC drive, and the last one is used to control the running direction.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-51	Input 1 of terminal start/stop module B	0xA433	Refer to "Value"	2	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Active 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: Source of terminal start/stop module B input 1							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-52	Terminal start/stop module B input 2	0xA434	Refer to "Value"	2	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Active 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: Source of terminal start/stop module B input 2							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-53	Terminal start/stop module B input 3	0xA435	Refer to "Value"	2	Unsigned 16 bit	Real time changes	Expert user	Effective in real

								time
	Value: 0: Active 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: Source of terminal start/stop module B input 3							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-54	Running permission source of terminal start/stop module B	0xA436	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 1: Active 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: Operation command source of terminal start/stop module B							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-55	Fault reset source of terminal start/stop module B	0xA437	Refer to "Value"	2	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 1: Active 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: Fault reset source of terminal start/stop module B							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-56	JOG1 source of terminal start/stop module B	0xA438	Refer to "Value"	2	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Active 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: JOG1 source of terminal start/stop module B							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-57	JOG2 source of terminal start/stop module B	0xA439	Refer to "Value"	2	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Active 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: JOG2 source of terminal start/stop module B							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-61	Source of supplementary speed in speed control	0xA43D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: Used to set supplementary speed source in speed control.							

0: 0

The additional speed of speed control is set to 0.

1: AI1

The additional speed of speed control is calculated based on the set AI curve through AI1 input or AI1 input current/voltage signals.

2: AI2

The additional speed of speed control is calculated based on the set AI curve through AI2 input or AI2 input current/voltage signals.

3: AI3

The additional speed of speed control is calculated based on the set AI curve through AI3 input or AI3 input current/voltage signals.

4: Pulse setting

The additional speed of speed control is set through DI5 pulse frequency.

5: Communication setting

The additional speed of speed control is set through communication. The forced value of ramp output is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode applies to remote control or centralized control of multiple devices.

6: Multi-reference

Different combinations of DI states correspond to different frequency references. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC.

7: Motorized potentiometer

The additional speed of speed control is set by the motorized potentiometer module output.

8: PID

The additional speed of speed control is set by PID output.

Others: F connector

The connector is used to set the speed control additional speed.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-62	JOG1 speed source	0xA43E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Digital setting
1: AI1
2: AI2
3: AI3
4: Pulse reference
5: Communication
6: Multi-reference
7: Motor-driven potentiometer
8: PID
0: F-connector

Description:

Used to set the source of jog 1 speed.

0: 0

The jog 1 speed is set through F8-00.

1: AI1

The jog 1 speed is calculated based on the set AI curve through AI1 input or AI1 input current/voltage signals.

	2: AI2 The jog 1 speed is calculated based on the set AI curve through AI2 input or AI2 input current/voltage signals. 3: AI3 The jog 1 speed is calculated based on the set AI curve through AI3 input or AI3 input current/voltage signals. 4: Pulse setting The jog 1 speed is set through DI5 pulse frequency. 5: Communication setting The jog 1 speed is set through communication. The jog 1 speed is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment. 6: Multi-speed reference In the multi-reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC. 7: Motorized potentiometer The jog 1 speed is set by the motorized potentiometer module output. 8: PID The jog 1 speed is set through PID output. Others: F connector The jog 1 speed is set through the connector.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-65	Ramp rounding mode	0xA441	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： Noncontinuous smoothing 1： Continuous smoothing							
	Description： Used to set the curve acceleration change mode. 0: No continuous smoothing Switched to the new target direction immediately when the acceleration/deceleration trend changes For example, during acceleration, when receiving a stop command, the RFG immediately reduces the frequency to decelerate to stop. 1: Continuous smoothing Executing the end arc of the current acceleration/deceleration segment before switching to the set direction when the acceleration/deceleration trend changes For example, during acceleration, when receiving a stop command, the RFG accelerates according to current acceleration arc, and then decelerates to stop.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-66	Jog ramp source	0xA442	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Value： 0： Normal running ramp time 1： Jog ramp time
	Description： 0: Ramp time during normal operation The ramp time for jogging and normal operation is the same. 1: Jog ramp time Jog ramp time is set separately (F8-01, F8-02).

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-67	Proportion of starting arc in acceleration	0xA443	0.0%~100.0%	30.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description： Defines the initial arc ratio at the start of acceleration.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-68	Proportion of end arc in acceleration	0xA444	0.0%~100.0%	30.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description： Defines the arc ratio at the end of acceleration.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-69	Proportion of starting arc in deceleration	0xA445	0.0%~100.0%	30.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description： Defines the arc ratio at the start of deceleration.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-70	Proportion of end arc in deceleration	0xA446	0.0%~100.0%	30.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description： Defines the arc ratio at the end of deceleration.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-71	Ramp output forcing enable	0xA447	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Value： 0：Inhibited　7：DI5　14：DI12 1：Enabled　8：DI6　15：DI13 2：Reserved　9：DI7　16：DI14 3：DI1　10：DI8　17：DI15 4：DI2　11：DI9　18：DI16 5：DI3　12：DI10　Others：B connector 6：DI4　13：DI11
	Description： Used to set whether to enable ramp output forcibly. 0: Forced ramp output forced disabled 1: Forced ramp output enabled 3 to 18: Enabled/disabled through the active state of DI terminal Others: Enable/disable through the active state of the parameter that the connector is connected to

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-72	Ramp output force value	0xA448	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value： 0：100%　4：Pulse reference　7：Motor-driven potentiometer 1：AI1　5：Communication　8：PID 2：AI2　6：Multi-reference　0：F-connector 3：AI3
Description： Used to set the forced value of ramp output. 0: 100% The forced value of ramp output is set to 100%. 1: AI1 The forced value of ramp output is calculated based on the set AI curve through AI1 input or AI1 input current/voltage signals. 2: AI2 The forced value of ramp output is calculated based on the set AI curve through AI2 input or AI2 input current/voltage signals. 3: AI3 The forced value of ramp output is calculated based on the set AI curve through AI3 input or AI3 input current/voltage signals. 4: Pulse setting The forced value of ramp output is set through DI5 pulse frequency. 5: Communication setting The forced value of ramp output is set through communication. The forced value of ramp output is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This

	mode is suitable for remote control or centralized control on multiple equipment. 6: Multi-reference Different combinations of DI states correspond to different frequency references. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC. 7: Motorized potentiometer The forced value of ramp output is set by the motorized potentiometer module output. 8: PID The forced value of ramp output is set through PID output. Others: F connector The forced value of ramp output is set through the connector

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-73	Ramp input ramp shift enable	0xA449	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Enabled 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: Used to enable ramp-change of ramp input. 0: Ramp-change of ramp input disabled 1: Ramp-change of ramp input enabled 3 to 18: Enabled or disabled through the active state of DI terminals Others: Enabled or disabled through the active state of the parameter that the connector is connected to							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-74	Ramp input update interval	0xA44A	2ms~10000ms	50ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines ramp input update interval.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-75	Ramp tracking enable	0xA44B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Value: 0: Disabled 1: Enabled
	Description: Defines whether to enable ramp tracking.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-76	Ramp tracking error	0xA44C	0.0%~100.0%	10.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the ramp tracking error.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-77	Frequency acceleration time in torque control	0xA44D	0.0s~6500.0s	0.0s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Frequency acceleration time in torque control							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-78	Frequency deceleration time in torque control	0xA44E	0.0s~6500.0s	0.0s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Frequency deceleration time in torque control							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-79	Forced use of the fourth set of time in torque control	0xA44F	0~1	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The fourth set of time is used by torque control forcibly.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-80	Speed limited running mode	0xA450	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Run with a maximum speed limit 1: Run at a specified safe speed							

	Description: 0: Max. operating speed limited When the operating speed is limited (for example when a fault occurs), the max. operating speed is limited by A4-81 and A4-82. 1: Operating at designated safety speed Continue to operate at the frequency set by F9-54

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-81	Forward speed limit in restricted running mode	0xA451	0.0%~100.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When A4-80 is set to 0, the positive speed limit is limited by the setpoint of A4-81.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-82	Reverse speed limit in restricted running mode	0xA452	0.0%~100.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When A4-80 is set to 0, the negative speed limit is limited by the setpoint of A4-81.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-83	Maximum motoring power in restricted running mode	0xA453	0.0%~400.0%	50.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to limit max. motoring power during operation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-84	Maximum regenerative power in restricted running mode	0xA454	0.0%~400.0%	50.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to limit the max. regenerative power during operation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-85	Forward torque limit in restricted running mode	0xA455	0.0%~400.0%	50.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to limit the positive torque limit during operation.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
A4-86	Reverse torque limit in restricted running mode	0xA456	0.0%~400.0%	50.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to limit the negative torque limit during operation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A4-87	Maximum allowable current in restricted running mode	0xA457	0.0%~400.0%	90.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to limit the max. permissible current during operation.							

A5 Control Optimization

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A5-00	DPWM switchover frequency upper limit	0xA500	5.0Hz~6000.0Hz	2000.0Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The AC drive supports two PWM modes: CPWM and DPWM. When the running frequency is higher than A5-00 (switchover frequency), the DPWM mode is used. When the running frequency is lower than A5-00 (switchover frequency), the CPWM mode is used. The DPWM mode can improve the AC drive efficiency, whereas the CPWM mode can reduce the motor noise. Increasing the value of this parameter to the maximum frequency will reduce the motor noise.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A5-01	PWM modulation mode	0xA501	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Asynchronous modulation 1: Synchronous modulation							
	Description: 0: Asynchronous modulation In this mode, the carrier frequency and signal wave frequency are not synchronized. Usually, the carrier frequency keeps unchanged. When the signal wave frequency changes, the carrier ratio will change accordingly. 1: Synchronous modulation When the result of the carrier frequency divided by the running frequency is lower than 10, output current oscillation or large current harmonic waves may occur. To address the problem, set this parameter to 1 (synchronous modulation).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A5-02	Dead zone compensation	0xA502	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled (compensation mode 1)							
	Description: A dead zone must be reserved for the switch signals of the upper and lower switching tubes on the bridge arm and the AC drive. Dead zone compensation can improve the current waveform of motor in low frequency operation. 0: Disable No dead zone compensation is performed. 1: Compensation mode 1 The dead zone compensation is enabled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A5-03	Random PWM depth	0xA503	0~10	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: If the motor noise is strong, setting A5-03 to a non-zero value can suppress the motor noise. A larger value indicates better noise suppression effect. However, an excessively high value may affect motor control. Therefore, set this parameter to 1 at the beginning of commissioning and then increase it by 1 each time as required.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A5-04	Pulse-by-pulse current limit protection	0xA504	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: This function is used to minimize the risk of overcurrent faults, ensuring normal operation of the AC drive. It is recommended to disable this function in hoisting applications, such as cranes.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A5-05	Voltage overmodulation coefficient	0xA505	100%~115%	103%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing the voltage overmodulation coefficient can enhance the voltage output capacity and effectively improve the							

	load capacity of the motor in the field weakening region, but will increase output current distortion at the same time.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A5-06	Under voltage threshold	0xA506	140.0V~420.0V	350.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the bus voltage is lower than the value of A5-06, the AC drive reports E009.1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A5-08	Low speed carrier frequency upper limit	0xA508	0.0kHz~8.0kHz	0.0kHz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the upper limit of the carrier frequency when the AC drive is running at a low speed. The limit takes effect when the setpoint is greater than 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A5-09	Overvoltage threshold	0xA509	330.0V~820.0V	820.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the bus voltage is higher than the value of this parameter, the AC drive reports E005.1. The default value is recommended generally.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A5-10	Energy conservation control	0xA50A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: This function is active only for asynchronous motors in the V/f control mode (F0-01 = 2, F1-00 = 0). 0: Disabled. Energy saving control is not enabled. 1: Enable Energy saving control is enabled. The energy consumption of the asynchronous motor during no-load and light-load running can be reduced by enabling energy-saving control.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A5-11	Udc filtering selection	0xA50B	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real

								time
	Value: 0: Disabled 1: Enabled							
	Description: Used to reduce the operation noise and current fluctuation, as well as improve overvoltage/undervoltage suppression performance when the bus voltage fluctuates.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A5-12	Carrier frequency of single/dual pulsing switchover	0xA50C	0kHz~24kHz	0kHz	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Used to set the carrier frequency that corresponds to pulsing switchover during vector control. When the setpoint is higher than or equal to 6 (corresponding to 6000 Hz), the setpoint applies. Otherwise, 12000 Hz is used.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A5-16	Stall detection sensitivity	0xA510	0~20	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the stall detection sensitivity.							

A6 AI Curve Setting

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-00	Minimum input of AI curve 4	0xA600	-10.00V~+A 6-02	0.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: A6-00 corresponds to the x axis of the AI curve 4 minimum input, that is, the minimum analog input voltage or current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-01	Percentage corresponding to minimum input of AI curve 4	0xA601	-100.0%~+1 00.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time

	Description: A6-01 corresponds to the y axis of the AI curve 4 minimum input, that is, the set value corresponding to the minimum analog input.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-02	Inflection 1 input of AI curve 4	0xA602	A6-00~A6-04	3.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: A6-02 corresponds to the x axis of the AI curve 4 minimum input, that is, the minimum analog input voltage or current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-03	Percentage corresponding to inflection 1 input of AI curve 4	0xA603	-100.0%~+100.0%	30.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: A6-03 corresponds to the y axis of the AI curve 4 inflection 1, that is, the set value corresponding to the minimum analog input.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-04	Inflection 2 input of AI curve 4	0xA604	A6-02~A6-06	6.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: A6-04 corresponds to the x axis of the AI curve 4 inflection 2, that is, the minimum analog input voltage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-05	Percentage corresponding to inflection 2 input of AI curve 4	0xA605	-100.0%~+100.0%	60.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: A6-05 corresponds to the y axis of the AI curve 4 inflection 2, that is, the set value corresponding to the minimum analog input.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

A6-06	Maximum input of AI curve 4	0xA606	A6-04~10.00V	10.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: A6-06 corresponds to the x axis of AI curve 4 maximum input, that is, the maximum analog input voltage or current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-07	Percentage corresponding to maximum input of AI curve 4	0xA607	-100.0%~+100.0%	100.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: A6-07 corresponds to the y axis of the AI curve 4 maximum input, that is, the set value corresponding to the maximum analog input.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-08	Minimum input of AI curve 5	0xA608	-10.00V~+A6-10	-10.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: A6-08 corresponds to the x axis of the AI curve 5 minimum input, that is, the minimum analog input voltage or current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-09	Percentage corresponding to minimum input of AI curve 5	0xA609	-100.0%~+100.0%	-100.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: A6-09 corresponds to the y axis of the AI curve 5 minimum input, that is, the set value corresponding to the minimum analog input.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-10	Inflection 1 input of AI curve 5	0xA60A	A6-08~A6-12	-3.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: A6-10 corresponds to the x axis of the AI curve 5 inflection 1, that is, the minimum analog input voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-11	Percentage corresponding to inflection 1 input of AI curve 5	0xA60B	-100.0%~+100.0%	-30.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: A6-11 corresponds to the y axis of the AI curve 5 inflection 1, that is, the set value corresponding to the minimum analog input.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-12	Inflection 2 input of AI curve 5	0xA60C	A6-10~A6-14	3.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: A6-12 corresponds to the x axis of the AI curve 5 inflection 2, that is, the minimum analog input voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-13	Percentage corresponding to inflection 2 input of AI curve 5	0xA60D	-100.0%~+100.0%	30.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: A6-13 corresponds to the y axis of the AI curve 5 inflection 2, that is, the set value corresponding to the minimum analog input.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-14	Maximum input of AI curve 5	0xA60E	A6-12~10.00V	10.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: A6-14 corresponds to the x axis of AI curve 5 maximum input, that is, the maximum analog input voltage or current.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-15	Percentage corresponding to maximum input of AI	0xA60F	-100.0%~+100.0%	100.0%	Signed 16 bits	Real time changes	General user	Effective in real time

	curve 5							
	Description: A6-15 corresponds to the y axis of the AI curve 5 maximum input, that is, the set value corresponding to the maximum analog input.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-24	AI1 skip point	0xA618	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: This parameter is used to set the AI1 jump point. If the input value is within the range from A6-26 – A6-25 to A6-26 + A6-27, the value of the AI2 jump point (A6-26) will be output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-25	AI1 skip amplitude	0xA619	0.0%~100.0%	0.1%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is used to set the AI1 jump amplitude. If the input is within the range from A6-24 - A6-25 to A6-24 + A6-25, the value of the AI1 jump point (A6-24) will be output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-26	AI2 skip point	0xA61A	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: This parameter is used to set the AI2 jump point. If the input value is within the range from A6-26 – A6-27 to A6-26 + A6-27, the value of the AI2 jump point (A6-26) will be output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-27	AI2 skip amplitude	0xA61B	0.0%~100.0%	0.1%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is used to set the AI2 jump amplitude. If the input value is within the range from A6-26 - A6-27 to A6-26 + A6-27, the value of the AI2 jump point (A6-26) will be output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

A6-28	AI3 skip point	0xA61C	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: This parameter is used to set the AI3 jump point. If the input is within the range from A6-28 - A6-29 to A6-28 + A6-29, the value of the AI3 jump point (A6-28) will be output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-29	AI3 skip amplitude	0xA61D	0.0%~100.0%	0.1%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is used to set the AI3 jump amplitude. If the input is within the range from A6-28 - A6-29 to A6-28 + A6-29, the value of the AI2 jump point (A6-28) will be output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-30	AI automatic curve calibration	0xA61E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Point selection (for setting)	0: Disabled 1: Point 1 2: Point 2 3: Point 3 4: Point 4
Tens	AI channel selection (for setting)	0: Disabled 1: AI1 2: AI2 3: AI3
Hundreds	Control function (for setting)	0: Disable 1: Enable
Thousands	X-point curve (for display)	0: Not enabled or channel not selected 2: 2-point curve 4: 4-point curve
Ten thousands	Reserved	

Description:

You can set different AI curves and curve types (2-point curve or 4-point curve) through the ones, tens, hundreds, thousands, and ten thousands of this parameter.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-31	AI1 input enable	0xA61F	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled 0: B-connector							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-32	AI2 input enable	0xA620	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled 0: B-connector							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-33	AI3 input enable	0xA621	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled 0: B-connector							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-34	AI polarity	0xA622	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	AI1	0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value

Tens	AI2	0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value	
Hundreds	AI3	0: Normal 1: Absolute value 2: Negated value 3: Negated absolute value	

Description:

You can set AI1, AI2, and AI3 input polarities through the ones, tens, and hundreds of this parameter.

0: Normal AI value

1: Absolute AI value

2: Negative AI value

3: Inverted absolute AI value

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-35	AI hardware source	0xA623	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
Ones	AI1 source	0: Hardware sampling 1: Force setpoint
Tens	AI2 source	0: Hardware sampling 1: Force setpoint
Hundreds	AI3 source	0: Hardware sampling 1: Force setpoint

Description:

You can set AI1, AI2, and AI3 hardware sources through the ones, tens, and hundreds places of this parameter.

If the source is set to 0 (hardware sampling), the AI value is sourced from hardware sampling.

If the source is set to 1 (forced value), the AI value can be forcibly set through parameters A6-36 to A6-38.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-36	AI1 force setpoint	0xA624	-10.00V~+10.00V	0.00V	Signed 16 bits	Real time changes	General user	Effective in real time

Description:

When the ones of A6-35 is set to 1 (Forced value), you can set the AI1 value forcibly through A6-36.

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
A6-37	AI2 forced setpoint	0xA625	-10.00V~+10.00V	0.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: When the tens of A6-35 is set to 1 (Forced value), you can set the AI1 value forcibly through A6-37.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-38	AI3 forced setpoint	0xA626	-10.00V~+10.00V	0.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: When the hundreds of A6-35 is set to 1 (Forced value), you can set the AI3 value forcibly through A6-38.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-39	High level for AI used as DI	0xA627	5.5V~9.0V	7.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the threshold for judging high level when the AI is used as the DI.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-40	Low level for AI used as DI	0xA628	1.0V~4.5V	3.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the threshold for judging low level when the AI is used as the DI.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-41	AI1 gain	0xA629	-10.00~+10.00	1.00	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Defines the multiplier of AI1 analog sampling gain							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-42	AI1 offset	0xA62A	-10.00V~+10.00V	0.00V	Signed 16 bits	Real time changes	General user	Effective in real time

	Description: Defines AI1 correction voltage zero offset coefficient

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-43	AI1 denoising threshold	0xA62B	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the AI1 denoising threshold. If the absolute value of the difference between the current input and the last input is below the threshold, denoising will be applied.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-44	AI1 dead zone width	0xA62C	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines AI1 dead zone width. The output 0.0% within the dead zone range is used to eliminate the fluctuation near zero.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-45	AI1 input upper limit	0xA62D	A6-46~10.00V	8.00V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the AI1 input voltage is higher than the value of A6-46 or lower than the value of A6-45, the DO outputs an active signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-46	AI1 input lower limit	0xA62E	0.00V~A6-45	2.00V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the AI1 input voltage is higher than the value of A6-46 or lower than the value of A6-45, the DO outputs an active signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-47	AI2 gain	0xA62F	-10.00~+10.00	1.00	Signed 16 bits	Real time changes	General user	Effective in real time
	Description:							

	Defines the multiplier of AI2 analog sampling gain							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-48	AI2 offset	0xA630	-10.00V~+10.00V	0.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Defines the offset of AI2 analog sampling.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-49	AI2 denoising threshold	0xA631	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the AI2 denoising threshold. If the absolute value of the difference between the current input and the last input is below the threshold, denoising will be applied.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-50	AI2 dead zone width	0xA632	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines AI2 dead zone width. The output 0.0% within the dead zone range is used to eliminate the fluctuation near zero.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-51	AI2 input upper limit	0xA633	A6-52~10.00V	8.00V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the AI2 input value is higher than the value of A6-51 or lower than the value of A6-52, the DO outputs an active signal indicating "AI2 input limit exceeded".							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-52	AI2 input lower limit	0xA634	0.00V~A6-51	2.00V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the AI2 input value is higher than the value of A6-51 or lower than the value of A6-52, the DO outputs an active signal indicating "AI2 input limit exceeded".							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-53	AI3 gain	0xA635	-10.00~+10.00	1.00	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Defines the multiplier of AI3 analog sampling gain							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-54	AI3 offset	0xA636	-10.00V~+10.00V	0.00V	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Defines the offset of AI3 analog sampling.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-55	AI3 denoising threshold	0xA637	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the AI3 denoising threshold. If the absolute value of the difference between the current input and the last input is below the threshold, denoising will be applied.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-56	AI3 dead zone width	0xA638	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines AI3 dead zone width. The output 0.0% within the dead zone range is used to eliminate the fluctuation near zero.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-57	AI3 input upper limit	0xA639	A6-58~10.00V	8.00V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the AI3 input value is higher than the value of A6-57 or lower than the value of A6-58, the DO outputs an active signal indicating "AI3 input limit exceeded".							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

A6-58	AI3 input lower limit	0xA63A	0.00V~A6-57	2.00V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the AI3 input value is higher than the value of A6-57 or lower than the value of A6-58, the DO outputs an active signal indicating "AI3 input limit exceeded".							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A6-59	AI input protection time	0xA63B	0.00s~1.00s	0.01s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the AI input limit keeps being exceeded after the time defined by this parameter elapses, the fault flag will be set.							

A7 Brake Control Parameters

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-00	Brake function	0xA700	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: No brake 1: With brake but without detection information 2: With brake and detection information							
	Description: Used to select the brake function. 0: Disable 1: Brake enabled, brake feedback not available 2: Brake enabled, brake feedback available							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-01	Actuating time of brake-open	0xA701	0.00s~30.00s	0.30s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the duration from brake close to brake release, that is, the action time of the brake mechanism. As the brake mechanism ages, the action time increases. In this case, adjust this parameter according to the actual mechanism response speed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-02	Actuating time of	0xA702	0.00s~30.00s	0.30s	Unsigned	Real time	General	Effective in

	brake-close				16 bit	changes	user	real time
	Description: Indicates the duration from brake release to brake close, that is, the action time of the brake mechanism. As the brake mechanism ages, the action time increases. In this case, adjust this parameter according to the actual mechanism response speed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-03	Brake feedback point source	0xA703	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: Active 2: Inactive 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B connector							
	Description: When there is brake feedback, you need to set the brake feedback source, which can be the DI or bit connector.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-04	Brake feedback fault delay	0xA704	0.00s~30.00s	2.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: After the brake acts and the AC drive does not receive feedback within the time set by this parameter, the AC drive considers that the brake mechanism is abnormal and reports a brake fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-05	Starting torque direction	0xA705	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Defined by digital setting of starting torque 1: Defined by digital setting of starting torque and motor operating direction							
	Description: Used to set the direction of the starting torque. 0: The starting torque is defined by A7-07. A positive value indicates positive torque and a negative value indicates negative torque. 1: The absolute value of the starting torque is equal to the absolute value of "Digital setting of starting torque". When the value of "Digital setting of starting torque" is positive, the starting torque direction is consistent with the final operating direction of the motor. When the value of "Digital setting of starting torque" is negative, the starting torque direction is opposite to the final operating direction of the motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-06	Starting torque source of vector control	0xA706	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disable 1: Recorded torque value 2: Digital setting of starting torque 0: F connector							
	Description: Used to set the starting torque source in the vector control. 0: Starting torque not enabled or available 1: Enabled: starting torque value = LC-69 (Torque retentive value x A7-08 (Retentive gain coefficient). If the retentive torque is not recorded, the setpoint 2 applies. 2: Starting torque enabled: The starting torque is defined by A7-07 (Digital setting of starting torque).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-07	Digital setting of torque reference	0xA707	-200.0%~+200.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: When A7-06 is set to 2, the starting torque is the value of this parameter.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-08	Retentive starting torque gain coefficient	0xA708	0.0%~300.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Starting torque = LC-69 (Starting torque retentive value) x A7-08 (Starting torque retentive gain coefficient) The starting torque is the torque output generated upon last braking.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-09	Starting speed source	0xA709	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disable 1: Defined by digital setting of starting speed 2: Defined by digital setting of starting speed and motor operating direction							
	Description: Used to set the starting speed source. 0: The starting speed is not enabled. 1: The starting speed is enabled. When the start speed is set to a positive value, the start speed direction is forward. When the start speed is set to a negative value, the start speed direction is reverse. 2: The start speed is enabled. The absolute value of the start speed is that of A7-10 (digital setting of start speed). When the							

	value of A7-10 (digital setting of start speed) is positive, the start speed direction is the same as the final operating direction of the motor. When the value of A7-10 (digital setting of start speed) is negative, the start speed direction is opposite to the final operating direction of the motor.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-10	Digital setting of torque reference	0xA70A	-30.0%~+30.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: The starting speed value is the speed value corresponding to current per-unit parameter.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-11	Forced brake close command source	0xA70B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: Active 2: Inactive 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B connector							
	Description: Used to select the source for forced brake close command, which is used to force the brake to close. The brake closes forcibly when a forced brake command is sent in any stage. 0: Forced brake not enabled 1: Forced brake enabled 2: Forced brake disabled 3 to 18: The source is DI terminal state. If the terminal is active, the forced brake command takes effect. Otherwise, it is inactive. Others: State of the parameter that the connector with source B is connected to							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-12	Actual speed monitoring threshold when brake closed	0xA70C	0.0%~100.0%	3.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the feedback speed reaches the value of A7-12 (Actual speed monitoring threshold for brake close) for the duration set by A7-13 (Actual speed monitoring time for brake close), the brake close starts.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-13	Actual speed monitoring time when	0xA70D	0.00s~300.00s	0.10s	Unsigned 16 bit	Real time changes	General user	Effective in real time

	brake closed							
	Description: When the feedback speed reaches the value of A7-12 (Actual speed monitoring threshold for brake close) for the duration set by A7-13 (Actual speed monitoring time for brake close), the brake close starts.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-14	Speed monitoring threshold setpoint when brake closed	0xA70E	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the set speed reaches the value of A7-14 (Set speed monitoring threshold for brake close) for the duration of A7-13+A7-15, the brake close starts.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-15	Speed monitoring time setpoint when brake closed	0xA70F	0.00s~60.00s	5.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the set speed reaches the value of A7-14 (Set speed monitoring threshold for brake close) for the duration of A7-13+A7-15, the brake close starts.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-16	Brake open command source	0xA710	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: Active 2: Inactive 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B connector							
	Description: Used to set the source for opening the brake.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-17	Comparative value source of brake open	0xA711	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disable 1: AI1 4: HDI 5: Aim 7: Motorized potentiometer output							

	2： AI2 3： AI3		6： Multi-segment value output		8： PID 0： F connector			
	Description： If the value of A7-17 is higher than the value of A7-18 for the time longer than the value set by A7-19, the brake release applies.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-18	Comparative threshold of brake switch-off	0xA712	0.0%~300.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Sets the comparison threshold for the brake open delay time.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-19	Brake switch-off delay	0xA713	0.00s~30.00s	0.20s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Defines the brake open delay.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-30	Brake action frequency at stop (wire drawing machine)	0xA71E	0.00Hz~F0-10	1.50Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： If the running frequency is lower than A7-30 and the DO function is set to 44, the corresponding DO outputs an active signal.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-31	Brake action delay at stop (wire drawing machine)	0xA71F	0.0s~20.0s	6.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： If the frequency is lower than A7-30 and the DO function is set to 44, the corresponding DO outputs an active signal. After the delay defined by A7-31 elapses, the DO outputs an inactive signal.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A7-32	DI terminal open circuit detection delay (wire drawing machine)	0xA720	0.0s~20.0s	6.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： It is used for DI function 86. After the AC drive starts, the AC drive starts to detect whether the DI is disconnected after the delay defined by A7-32 elapses.							

	If the DI state is detected to be active, E031.2 is reported.

A8 Point-to-point Communication

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A8-00	Master-slave control function	0xA800	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Used to enable master/slave control function, which must be set for both the master and slave.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A8-01	Master/Slave selection	0xA801	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Master 1: Slave							
	Description: Used to set the AC drive as the master or slave. During point-to-point communication, set FD-00 (CANlink communication baud rate). The communication address is assigned automatically based on the whether the master or slave is selected.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A8-02	Slave following master's command	0xA802	Refer to "Value"	11	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Whether to follow master's command	0: Not following master's running command 1: Following master's running command

	Tens	Transmitting slave fault information	0: Not transmitting slave fault information 1: Transmitting slave fault information
	Hundreds	Whether to display alarm when slave becomes offline	0: Not displaying alarm when slave becomes offline 1: Displaying alarm when slave becomes offline

Description:

When F0-02 is set to 2 (communication control) for a slave:

if the ones is set to 1, the slave runs/stops by following the master's running command.

if the tens is set to 1, the fault information is sent to the master when the slave is faulty.

if the hundreds is set to 1, an alarm is reported when the slave is disconnected.

Note: When the slave connection is abnormal, the master does not report a fault when stopping and reports a fault during running.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A8-03	Function of slave RX data	0xA803	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: Running frequency

1: Target frequency

Description:

0: Running frequency

Frequency transferred from the master to the slave, which is the running frequency of the master If the value of F8-15 (Droop ratio) is not 0, the frequency transferred from the master to the slave is the droop control frequency. This is applied to droop control or speed synchronization control (that is, the slave is in the speed mode). In the load distribution control (that is, the slave is in the torque mode), the running frequency transferred from the master to the slave is the running frequency of the master. In this case, the value of F8-15 must be set to 0.

1:Target frequency

Frequency transferred from the master to the slave, which is the target frequency of the master

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A8-04	RX data zero offset	0xA804	-100.00%~+ 100.00%	0.00%	Signed 16 bits	Real time changes	General user	Effective in real time

Description:

Used to correct the received data and used for the reference relationship between the user-defined master and slave.

When A0-00 = 0, A8-04 and A8-05 correct frequency references.

When A0-00 = 1, A8-04 and A8-05 correct torque reference.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A8-05	RX data gain	0xA805	-10.00%~+100.00%	1.00%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Used to correct the received data and used for the reference relationship between the user-defined master and slave. When A0-00 = 0, A8-04 and A8-05 correct frequency references. When A0-00 = 1, A8-04 and A8-05 correct torque reference.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A8-06	Master-slave communication heartbeat time	0xA806	0.0s~10.0s	1.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the time required to detect communication interruption of the master or slave in point-to-point communication. To disable the detection function, set this parameter to 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A8-07	Master data TX cycle in point-to-point communication	0xA807	0.001s~10.000s	0.001s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Master/Slave control communication transmission cycle (active only for master)							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A8-12	Master/Slave frequency multiplier	0xA80C	1~6	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to magnify the frequency sent from the master. Use the default value generally.							

A9 Motor parameter 1

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
A9-00	Number of parallel motors	0xA900	1~200	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the number of paralleled motors.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-01	Motor information command word	0xA901	Refer to "Value"	0x3	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
Bit0	Mutual inductance curve	0: Disable 1: Enable
bit1	D/Q inductance curve	0: Disable 1: Enable
bit2	Online auto-tuning of rotor resistance	0: Disable 1: Enable
bit3	Online auto-tuning mode of rotor resistance	0: Amplitude 1: Phase
bit4	Motor thermal model	0: Disable 1: Enable
bit5	Motor thermal model temperature source	0: Estimated temperature 1: Temperature detected by the sensor
bit6	Calculation mode of asynchronous motor torque coefficient	0: Torque formula 1: Current distribution
bit7	Calculation mode of synchronous motor torque coefficient	0: Torque formula 1: Matching with rated values
bit8	Calculation mode of zero speed friction torque	0: Decreased to zero linearly 1: Keeping min. speed torque
bit9	Calculating model parameter based on nameplate parameters	0: Disable 1: Enable
bit10	Acknowledgment key for calculating model parameter based on nameplate parameters	0: Default 1: Acknowledgment key
bit12	Reluctance motor Ld curve	0: Dynamic auto-tuning results 1: Static auto-tuning results

	bit13	Synchronous motor torque precision correction	0: Disable 1: Enable

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-02	Number of resolver pole pairs	0xA902	0~64	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
A9-03	Motor power factor	0xA903	0.600~1.000	0.860	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-05	Expansion card	0xA905	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 1: Expansion card 1 2: Expansion card 2							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-06	ABZ encoder speed measurement mode at low speed	0xA906	Refer to "Value"	2	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Maintain 1: Attenuate 2: Optimized solution							
	Description: In case of low speed without pulse, three speed measurement solutions are available. 0: Kept unchanged Keep the current speed when there is no pulse, and the speed is determined to be zero after 4 ms elapsed. 1: Attenuate When there is no pulse, the speed is attenuated based on 1/2 exponential and the speed is determined to be zero after 4 ms elapsed. 2: Optimized The speed is kept the same firstly, and then attenuated after a certain number of cycles. After the number of pulse-less							

	cycles reaches zero, the speed is determined to be zero.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-07	Encoder speed measurement filter time constant	0xA907	0.000s~10.000s	0.004s	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

Adjusting the encoder speed measurement filter time constant can change the encoder signal filtering effect. Longer filter time indicates smoother encoder feedback speed but longer feedback delay. Shorter filter time indicates shorter feedback delay but larger encoder feedback speed fluctuations. In FVC control mode, the filter time constant needs to be adjusted based on the actual working conditions and encoder signal quality. It cannot be too small if the signal quality of the resolver and other encoders is poor.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-08	Encoder wire breakage software detection coefficient	0xA908	0.000~8.000	1.000	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

This parameter defines the speed glitch amplitude for determining speed exceptions. The default value is 100% and does not need not be modified in normal cases.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-09	Encoder control word	0xA909	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
bit0	Speed measurement	0: Disable 1: Enable
bit1	Software disconnection detection	0: Disable 1: Enable
bit2	Burr removal	0: Disable 1: Enable
bit3	ABZ speed measurement mode	0: Quadruple frequency 1: Single pulse

bit4	AB pulse setting mode	0: AB quadrature 1: A-pulse B-direction
bit5	A-pulse B-direction function selection 1	0: Falling edge counting of A 1: Rising edge counting of A
bit6	A-pulse B-direction function selection 2	0: B-direction being forward upon high level/reverse upon low level 1: B-direction being reverse upon high level/forward upon low level

Description:

Bit 0: Speed measurement enable

When the FVC control mode is selected, speed measurement is enabled automatically. When other control mode is selected, speed measurement is required, you can set the speed measurement enable to turn on or off the encoder speed measurement function.

Bit 1: Software open circuit detection enable

The software disconnection detection to detect the encoder function during operation based on the encoder speed measurement results. The detection is not available in the shutdown state. Enabling the software disconnection detection will automatically enables the burr removal function. When the number of speed measurement errors is detected to be greater than A9-10, the encoder software disconnection fault will be reported.

Bit 2: Burr removal enable

The burr removal function will remove occasional speed measurement burrs, and the size of the burrs removed is controlled by A9-08.

Bit3: ABZ speed measurement mode

0: Quadruple frequency speed measurement mode is used throughout the process.

1: Quadruple frequency speed measurement mode is used during low-speed operation. Single pulse speed measurement mode is used during high-speed operation.

2: Single frequency speed measurement is used throughout the process.

Bit4: AB pulse reference direction selection

0: AB quadrature, quadrature speed measurement performed based on the rising/falling edge of AB pulse

1: A-pulse B-direction, counting is performed by taking A signal as counting pulse and B signal as direction indication

Bit5: A-pulse B-direction function selection 1

0: Counting performed in the falling edge of A

1: Counting performed in the rising edge of A

Bit6: A-pulse B-direction function selection 2

0: When A-pulse edge comes, UP counting applies upon high level of B/DOWN counting applies upon low level of B.

1: When A-pulse edge comes, DOWN counting applies upon high level of B/UP counting applies upon low level of B.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-10	Speed measurement exception count threshold	0xA90A	1~100	10	Unsigned 16 bit	Shutdown change	General user	Effective in real time

	Description: After software detection of encoder wire breakage is enabled, the encoder wire breakage fault is reported when the number of detected speed measurement exceptions exceeds the threshold defined by A9-10.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-11	Motor gear ratio (numerator)	0xA90B	1~65535	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the encoder and motor are not coaxially mounted, the control motor needs to set the gear ratio, which forms the gear ratio together with A9-12. If the motor-to-load deceleration ratio is 2.5 (2.5 revolutions of motor = 1 revolution of load), and the encoder is installed on the load, the numerator should be set to 5 and the denominator should be set to 2.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-12	Motor gear ratio (denominator)	0xA90C	1~65535	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the encoder and motor are not coaxially mounted, the control motor needs to set the gear ratio, which forms the gear ratio together with A9-11. If the motor-to-load deceleration ratio is 2.5 (2.5 revolutions of motor = 1 revolution of load), and the encoder is installed on the load, the numerator should be set to 5 and the denominator should be set to 2.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-13	External input source of encoder	0xA90D	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: When the speed comes from a communication reference or an AI terminal reference, the encoder type F1-28 is selected as an external source, and the parameter is set to a corresponding source.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

A9-15	Stator leakage inductance	0xA90F	0.000mH~65.535mH	6.540mH	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Leakage inductance of asynchronous motor stator							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-16	Electromechanical time constant	0xA910	0.01s~655.35s	1.00s	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Defines the time for the motor to accelerate to the rated speed at no-load operation. This parameter reflects the motor inertia, which can be obtained through dynamic or inertia auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-17	Inertia ratio	0xA911	0.0%~6553.5%	120.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the ratio of the actual motor inertia to the default system inertia, which can be auto-tuned by dynamic or inertia auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-18	Friction torque	0xA912	0.0%~6553.5%	2.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the motor friction torque, which can be auto-tuned.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-19	Excitation current coefficient 1 of mutual inductance curve (rated)	0xA913	5.0%~100.0%	50.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description:							

	Defines the excitation current point 1 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-20	Excitation current coefficient 2 of mutual inductance curve (rated)	0xA914	5.0%~100.0%	75.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the excitation current point 2 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-21	Excitation current point 3 of mutual inductance curve	0xA915	100.0%~800.0%	150.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the excitation current point 3 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-22	Excitation current coefficient 4 of mutual inductance curve	0xA916	100.0%~800.0%	210.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the excitation current point 4 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-23	Flux coefficient 1 of mutual inductance curve (rated)	0xA917	10.0%~100.0%	50.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the flux point 1 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-24	Flux coefficient 2 of mutual inductance	0xA918	10.0%~100.0%	85.0%	Unsigned	Shutdown	Expert	Effective in real

	curve (rated)				16 bit	change	user	time
	Description: Defines the flux point 2 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-25	Flux coefficient 3 of mutual inductance curve	0xA919	100.0%~300.0%	115.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the flux point 3 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-26	Flux coefficient 4 of mutual inductance curve	0xA91A	100.0%~300.0%	125.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the flux point 4 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-27	Speed point 1 of friction curve	0xA91B	0rpm~30000rpm	15rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 1 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-28	Speed point 2 of friction curve	0xA91C	0rpm~30000rpm	30rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 2 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-29	Speed point 3 of	0xA91D	0rpm~30000rpm	60rpm	Unsigned	Shutdown	Expert	Effective

	friction curve				16 bit	change	user	in real time
	Description: Defines the corresponding speed point 3 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-30	Speed point 4 of friction curve	0xA91E	0rpm~30000rpm	120rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 4 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-31	Speed point 5 of friction curve	0xA91F	0rpm~30000rpm	150rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 5 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-32	Speed point 6 of friction curve	0xA920	0rpm~30000rpm	300rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 6 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-33	Speed point 7 of friction curve	0xA921	0rpm~30000rpm	600rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 7 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

A9-34	Speed point 8 of friction curve	0xA922	0rpm~30000rpm	1200rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 8 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-35	Speed point 9 of friction curve	0xA923	0rpm~30000rpm	1500rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 9 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-36	Speed point 10 of friction curve	0xA924	0rpm~30000rpm	3000rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 10 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-37	Torque point 1 of friction curve	0xA925	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 1 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-38	Torque point 2 of friction curve	0xA926	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 2 of speed-friction torque curve.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
A9-39	Torque point 3 of friction curve	0xA927	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 3 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-40	Torque point 4 of friction curve	0xA928	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 4 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-41	Torque point 5 of friction curve	0xA929	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 5 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-42	Torque point 6 of friction curve	0xA92A	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 6 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-43	Torque point 7 of friction curve	0xA92B	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 7 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-44	Torque point 8 of friction curve	0xA92C	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 8 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-45	Torque point 9 of friction curve	0xA92D	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 9 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-46	Torque point 10 of friction curve	0xA92E	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 10 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-47	Current coefficient starting point of D- and Q-axis inductance curve	0xA92F	-800.0%~+800.0%	-200.0%	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the starting point of D/Q-axis inductance curve current coefficient.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-48	Current coefficient end point of D- and Q-axis inductance curve	0xA930	-800.0%~+800.0%	200.0%	Signed 16 bits	Shutdown change	Expert user	Effective in real time

	Description: Defines the end point of D/Q-axis inductance curve current coefficient.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-49	D axis inductance 1 of D- and Q-axis inductance curve	0xA931	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-50	D axis inductance 2 of D- and Q-axis inductance curve	0xA932	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 2.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-51	D axis inductance 3 of D- and Q-axis inductance curve	0xA933	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 3.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-52	D axis inductance 4 of D- and Q-axis inductance curve	0xA934	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 4.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-53	D axis inductance 5 of D- and Q-axis	0xA935	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real

	inductance curve							time
	Description: Defines D-axis inductance curve point 5.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-54	D axis inductance 6 of D- and Q-axis inductance curve	0xA936	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 6.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-55	D axis inductance 7 of D- and Q-axis inductance curve	0xA937	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 7.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-56	D axis inductance 8 of D- and Q-axis inductance curve	0xA938	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 8.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-57	D axis inductance 9 of D- and Q-axis inductance curve	0xA939	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 9.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-58	D axis inductance 10	0xA93A	0.0%~6553.5%	100.0%	Unsigned	Shutdown	Expert	Effective

	of D- and Q-axis inductance curve				16 bit	change	user	in real time
	Description: Defines D-axis inductance curve point 10.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-59	D axis inductance 11 of D- and Q-axis inductance curve	0xA93B	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 11.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-60	D axis inductance 12 of D- and Q-axis inductance curve	0xA93C	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 12.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-61	Q axis inductance 1 of D- and Q-axis inductance curve	0xA93D	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-62	Q axis inductance 2 of D- and Q-axis inductance curve	0xA93E	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 2.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

A9-63	Q axis inductance 3 of D- and Q-axis inductance curve	0xA93F	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 3.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-64	Q axis inductance 4 of D- and Q-axis inductance curve	0xA940	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 4.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-65	Q axis inductance 5 of D- and Q-axis inductance curve	0xA941	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 5.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-66	Q axis inductance 6 of D- and Q-axis inductance curve	0xA942	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 6.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-67	Q axis inductance 7 of D- and Q-axis inductance curve	0xA943	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 7.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
A9-68	Q axis inductance 8 of D- and Q-axis inductance curve	0xA944	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 8.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-69	Q axis inductance 9 of D- and Q-axis inductance curve	0xA945	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 9.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-70	Q axis inductance 10 of D- and Q-axis inductance curve	0xA946	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 10.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-71	Q axis inductance 11 of D- and Q-axis inductance curve	0xA947	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 11.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
A9-72	Q axis inductance 12 of D- and Q-axis inductance curve	0xA948	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 12.							

AA Auxiliary Control Parameters

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-00	Parameter auto-tuning upon startup	0xAA00	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
Bit0	Auto-tuning of synchronous motor starting magnetic pole position	0: Disable 1: Enable
bit1	Starting quick auto-tuning of stator resistance	0: Disable 1: Enable
bit2	Auto-tuning of high-frequency injection magnetic pole position	0: Disable 1: Enable 2: Adaptive
bit4	Starting IGBT short circuit detection	0: Disable 1: Enable
bit5	Starting short circuit to ground detection (reserved)	0: Disable 1: Enable
bit6	Starting phase loss detection (reserved)	0: Disable 1: Enable
bit7	Pre-positioning before start of synchronous motor	0: Disable 1: Enable

Description:

Used to configure steps related to automatic inspection and auto-tuning before start of the motor.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-01	Motor parameter auto-tuning direction	0xAA01	0~1	1	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time

Description:

Defines the direction of rotation for dynamic auto-tuning.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-02	Back EMF auto-tuning	0xAA02	0.0~30.0	3.2	Unsigned	Shutdown	Expert	Effective

	vibration suppression gain of synchronous motor				16 bit	change	user	in real time
	Description: Used to suppress oscillation that occur during back EMF auto-tuning of synchronous motor. If oscillation occurs during back EMF auto-tuning, increase the setpoint properly.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-03	Target speed of rotation auto-tuning	0xAA03	30.0%~100.0%	70.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Used to set the speed during auto-tuning of no-load current and mutual inductance curve of asynchronous motor. When the bus voltage is lower than 70% of the normal value or the motor is not allowed to operate at high speed, decrease this speed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-04	Target speed 1 of inertia auto-tuning	0xAA04	10.0%~AA-05	40.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: During inertia auto-tuning, the motor may accelerate/decelerate repeatedly between this speed and AA-05 to auto-tune the inertia.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-05	Target speed 2 of inertia auto-tuning	0xAA05	AA-04~100.0%	60.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: During inertia auto-tuning, the motor may accelerate/decelerate repeatedly between this speed and AA-04 to auto-tune the inertia.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-06	Overcurrent prevention of mutual inductance saturation	0xAA06	0~1	1	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time

	curve							
	Description: If the mutual inductance curve of the asynchronous motor is over-saturated, this parameter can be used to prevent overcurrent during voltage rise.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-07	Motor parameter auto-tuning item configuration	0xAA07	Refer to "Value"	125	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
bit0	Self-adaption of speed loop parameters	0: Disable 1: Enable
bit1	Self-adaption of current loop parameters	0: Disable 1: Enable
bit2	Non-linear auto-tuning of the drive	0: Disable 1: Enable
bit3	Phase-to-phase deviation coefficient auto-tuning	0: Disable 1: Enable
bit4	Auto-tuning of initial magnetic pole position	0: Disable 1: Enable
bit5	Auto-tuning of synchronous motor D/Q-axis inductance model	0: Disable 1: Enable
bit6	Auto-tuning of system moment of inertia	0: Disable 1: Enable
bit7	Auto-tuning of High-frequency injection magnetic pole position	0: Disable 1: Enable
bit8	Auto-tuning of DC injection	0: Disable 1: Enable
bit9	Auto-tuning of no-load current vector	0: Disable 1: Enable
bit10	Speed reference source of no-load current vector auto-tuning	0: Set by the user 1: Set internally
bit11	Back EMF calculation	0: Disable 1: Enable
bit12	Back EMF auto-tuning calculation mode	0: Mode 0 1: Mode 1

bit13	Auto-tuning of encoder direction	0: Disable 1: Enable	

Description:

Used to configure motor parameter auto-tuning items. If some auto-tuning steps fail due to specific reasons, you can turn off the corresponding step to proceed with subsequent auto-tuning steps.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-08	OFF3 stop mode	0xAA08	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: Quick stop

1: Stop at maximum capability

Description:

Defines the stop mode for OFF3.

Quick stop: Stop according to the deceleration time set in F8-55. If the load is too heavy, the deceleration time is too short, and overvoltage may occur.

Stop at max. capacity: Stop quickly based on the AC drive's state, without overvoltage or overcurrent due to short deceleration time.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-09	Stop mode during running	0xAA09	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: OFF1 stop mode

1: OFF2 stop mode

2: OFF3 stop mode

Description:

Mode of stop during running

0: Stop at OFF1

The stop mode is defined by OFF1 stop command.

1: Stop at OFF2

The stop mode is defined by OFF2 stop command.

2: Stop at OFF3

The stop mode is defined by OFF3 stop command.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-10	Stop mode for torque control	0xAA0A	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Coast to stop forcibly 1: Switch to speed control mode and then stop 2: Maintain torque control mode until zero speed and then block							
	Description: Used to select the stop method in the torque mode. 0: Forced coast-to-stop The output is blocked directly, and the motor coasts to stop based on friction. 1: Switched to the speed mode and then stop The AC drive switches to speed mode and then decelerate to stop. 2: Torque mode held until reaching zero speed and then block Keep the torque mode and when the motor decelerates to zero speed, the output is blocked.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-11	MTPA filter time	0xAA0B	0~8000	20	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the Id filter time set by the synchronous motor MTPA. The lower the setpoint, the faster the MTPA response. Note that an excessively low setpoint may lead to torque oscillation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-12	Proportional gain adjustment coefficient	0xAA0C	0.1~2.0	1.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the proportional adjustment item for closed-loop current during DC braking. Increasing the setpoint improves the dynamic responsiveness and current tracking performance during DC braking. An excessively high setpoint may lead to motor oscillation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

AA-13	Integral gain adjustment coefficient	0xAA0D	0.1~2.0	1.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Integral adjustment of closed-loop current during DC braking Increasing the setpoint improves the dynamic responsiveness and current tracking performance during DC braking. An excessively high setpoint may lead to motor oscillation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-14	Zero-speed threshold	0xAA0E	0.1%~200.0%	2.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the threshold for determining the motor zero speed during decelerate-to-stop. An excessively low setpoint may cause the motor stop failure when the motor speed is near zero but exceeds this threshold. An excessively high setpoint may cause the motor to rotate when the drive output has been blocked. Set this parameter based on the actual stop performance. The value 100% corresponds to the rated motor frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-15	Zero-speed stop delay	0xAA0F	0.00s~10.00s	0.10s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The drive blocks output when the motor actual speed keeps lower than the zero speed threshold during deceleration to stop after the period defined by this parameter elapses.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-16	Setting channel execution interval	0xAA10	0~20	4	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Indicates the number of channel execution intervals. The middle loop sequence is taken as the basis. If it is set to 0, no execution will be performed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-17	Trial current for speed tracking of	0xAA11	5.0%~50.0%	10.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real

	synchronous motor							time
	Description: Defines the current during speed tracking of synchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-18	Minimum frequency for speed tracking of synchronous motor	0xAA12	0.0Hz~100.0Hz	0.0Hz	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: When the frequency is lower than this setpoint, the motor is at zero speed and can start directly.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-19	Angle compensation for speed tracking of synchronous motor	0xAA13	0~360	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Used to reduce the current surge after speed tracking.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-20	Parameter auto-tuning of synchronous motor upon startup	0xAA14	0~1	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to apply quick magnetic pole auto-tuning during initial power-on.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-21	Current motor angle	0xAA15	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Indicates the present angle of the motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-22	Forward torque limit 1	0xAA16	0.0%~400.0%	150.0%	Unsigned	Real time	General	Effective

					16 bit	changes	user	in real time
	Description: Digital setting of positive torque limit							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-23	Reverse torque limit 1	0xAA17	0.0%~400.0%	150.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Digital setting of negative torque limit							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-24	Source of forward torque limit 2	0xAA18	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: 400% 0: F-connector							
	Description: Defines the positive torque limit. The minimum between this value and AA-22 is used as the final value. 0: 400% Others: Setpoint of F connector							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-25	Source of reverse torque limit 2	0xAA19	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: –400% 0: F-connector							
	Description: Defines the negative torque limit. The minimum between this value and AA-23 is used as the final value. 0: -400% Others: F connector							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-26	Ramp (FRG) selection bit 0	0xAA1A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: 0	7: DI5	14: DI12
1: 1	8: DI6	15: DI13
2: Terminal function input	9: DI7	16: DI14
3: DI1	10: DI8	17: DI15
4: DI2	11: DI9	18: DI16
5: DI3	12: DI10	0: B-connector
6: DI4	13: DI11	

Description:

Four groups of acceleration/deceleration time are available, which can be switched by the four states of bit0 and bit1 values of the ramp (RFG). The acceleration time indicates the time required by the AC drive to accelerate from 0 Hz to the acceleration/deceleration base frequency (F0-25). The deceleration time indicates the time required by the AC drive to decelerate from the acceleration/deceleration base frequency (F0-25) to 0 Hz.

0: Inactive

1: Active

2: Terminal function input

3~18: Select the ramp (RFG) through high/low level of DI for DI1 to DI16.

Others: B connector

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-27	Ramp (FRG) selection bit 1	0xAA1B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: 0	7: DI5	14: DI12
1: 1	8: DI6	15: DI13
2: Terminal function input	9: DI7	16: DI14
3: DI1	10: DI8	17: DI15
4: DI2	11: DI9	18: DI16
5: DI3	12: DI10	0: B-connector
6: DI4	13: DI11	

Description:

Four groups of acceleration/deceleration time are available, which can be switched by the four states of bit0 and bit1 values

of the ramp (RFG). The acceleration time indicates the time required by the AC drive to accelerate from 0 Hz to the acceleration/deceleration base frequency (F0-25). The deceleration time indicates the time required by the AC drive to decelerate from the acceleration/deceleration base frequency (F0-25) to 0 Hz.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-30	Motor protection	0xAA1E	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name
Bit0	Motor overload judgment (reserved)
Bit1	Motor overtemperature detection (reserved)
Bit2	PG fault detection (reserved)
bit3	Current control error detection
bit4	Motor step loss error detection
bit5	Motor stall detection
bit6	Synchronous motor demagnetization protection
bit7	SVC speed open-loop stall protection (reserved)
bit8	Synchronous motor output voltage error detection
bit9	Parameter setting error
bit10	Output load loss detection (reserved)
bit11	Runaway protection
bit12	Excessive speed deviation (reserved)
bit13	Speed reversal protection (reserved)
bit14	Overspeed protection (reserved)
bit15	Reserved

Description:

Protective function switch of the motor

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-31	Motor stall time	0xAA1F	0.0s~65.0s	2.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

When the motor speed setpoint exceeds the fault frequency, the torque reaches the limit state, and the fault time is exceeded, a fault indicating the motor is stalled will be reported (E093.1).

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-32	Motor stall frequency	0xAA20	0.0%~600.0%	6.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed setpoint exceeds the fault frequency, the torque reaches the limit state, and the fault time is exceeded, a fault indicating the motor is stalled will be reported (E093.1).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-33	Motor stall detection time	0xAA21	0.0s~10.0s	0.5s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the feedback flux of asynchronous motor flux controller and the set flux exceed the detection threshold and reach the set time, a step loss fault will be reported (E093.2).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-34	Stall detection threshold	0xAA22	0.0%~100.0%	30.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the feedback flux of asynchronous motor flux controller and the set flux exceed the detection threshold and reach the set time, a step loss fault will be reported (E093.2).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-35	Current control exception detection time	0xAA23	0.00s~1.00s	0.05s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to judge whether the motor feedback current follows the set deviation threshold. If the error exceeds the threshold and reaches the set time, a fault will be reported (E093.3).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-36	Current control	0xAA24	0.0%~200.0%	25.0%	Unsigned	Real time	General	Effective

	exception detection threshold				16 bit	changes	user	in real time
	Description: Used to judge whether the motor feedback current follows the set deviation threshold. If the error exceeds the threshold and reaches the set time, a fault will be reported (E093.3).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-37	Synchronous motor overcurrent threshold	0xAA25	0.0%~500.0%	300.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: A fault will be reported when the phase current of the motor exceeds the threshold (based on the rated motor current).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-39	Speed deviation detection	0xAA27	0~1	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to judge whether the motor feedback speed follows the setting. If the deviation keeps exceeding the threshold (F9-69) after the time defined by F9-70 elapses, a fault will be reported (E042.1).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-40	Asynchronous motor FVC model switchover frequency	0xAA28	0%~1000%	20%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
AA-41	Asynchronous motor FVC model switchover hysteresis frequency	0xAA29	10%~50%	20%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
AA-42	Asynchronous motor FVC observer filter time	0xAA2A	5ms~100ms	15ms	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
AA-43	Asynchronous motor FVC current model mode	0xAA2B	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
AA-44	Asynchronous motor	0xAA2C	0~1	0	Unsigned	Shutdown	Expert	Effective

	FVC pre-excitation output observation angle mode				16 bit	change	user	in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-45	Asynchronous motor SVC model switchover frequency	0xAA2D	10%~20%	15%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
AA-46	DC starting frequency of asynchronous motor in SVC mode	0xAA2E	0.1%~20.0%	0.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-47	Asynchronous motor SVC observer gain 1	0xAA2F	10%~500%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-48	Asynchronous motor SVC observer gain 2	0xAA30	10%~100%	20%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-49	Asynchronous motor SVC observer mode	0xAA31	0~3	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-50	Asynchronous motor SVC pre-excitation mode	0xAA32	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
AA-51	Asynchronous motor SVC speed tracking mode	0xAA33	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
AA-52	Asynchronous motor high-speed model gain	0xAA34	0.0~3.0	0.5	Unsigned 16 bit	Shutdown change	General user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-54	Synchronous motor 1 model control	0xAA36	Refer to "Value"	5	Unsigned 16 bit	Real time changes	Expert user	Effective in real

								time
	Value: Bit: Name bit0: Low speed processing bit1: Low speed processing 1 bit2: Online auto-tuning of resistance bit3: Online auto-tuning of back EMF bit4: KS							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-55	Synchronous motor model K1	0xAA37	10Hz~3000Hz	200Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-56	Synchronous motor model K1Max	0xAA38	100%~6000%	3000%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-57	Synchronous motor model KsMin	0xAA39	0.0~4.0	0.3	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-58	Synchronous motor model Kspeed	0xAA3A	50Hz~2000Hz	400Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-59	Synchronous motor frequency filter time constant	0xAA3B	2ms~100ms	10ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-60	Frequency upper limit of synchronous motor Rs online auto-tuning	0xAA3C	1.0%~20.0%	3.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-61	Synchronous motor model Kr	0xAA3D	0~50	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-62	Synchronous motor model Kr1	0xAA3E	0%~50%	5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real

								time
AA-63	Synchronous motor low-speed D axis injection current	0xAA3F	0%~100%	20%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-64	Synchronous motor model LowFreqTime1	0xAA40	0~500	50	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-67	Frequency lower limit of back EMF online auto-tuning	0xAA43	10%~100%	25%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-68	Synchronous motor model LowFreq	0xAA44	0.0%~2.0%	0.3%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-69	Synchronous motor model LowFreqTime	0xAA45	0~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-70	Percentage of pole auto-tuning current	0xAA46	50%~200%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the target current of magnetic pole position auto-tuning of synchronous motor. If the noise generated during magnetic pole position auto-tuning is too loud, reduce this current. Note that excessively low current may cause magnetic pole position auto-tuning fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-71	Percentage of high frequency response current	0xAA47	0%~100%	25%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-72	Percentage of HFI and SVC switching frequency	0xAA48	0%~30%	10%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-73	Observer parameter	0xAA49	10~200	100	Unsigned 16 bit	Real time changes	Expert user	Effective in real

								time
AA-74	Speed filter cut-off frequency	0xAA4A	1Hz~200Hz	10Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-75	Carrier frequency during NS auto-tuning	0xAA4B	2.00Hz~16.00Hz	8.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-76	Automatic calculation of NS auto-tuning voltage	0xAA4C	0~1	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-77	Percentage of NS auto-tuning voltage set manually	0xAA4D	0%~100%	10%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AA-78	Duration of HFI stage 1	0xAA4E	50ms~500ms	150ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-80	Speed loop command word	0xAA50	Refer to "Value"	19	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Bit 0	Speed loop enable	0: Disabled 1: Enabled
Bit1	Integral mode selection	0: Traditional integral 1: Position integral
bit2	Torque feedforward enable	0: Disabled 1: Enable
bit4 to bit3	Acceleration source selection	0: Function transfer torque 1: Automatic calculation 2: Function transmission acceleration
Bit5	Anti-load disturbance enable	0: Disabled 1: Enable

	Description: Speed loop command word Bit 0: The speed loop can be turned off by this parameter in a specific process application 0: Disable 1: Enable Bit1: Speed loop integral mode selection 0: Traditional integral 1: Position-type integral bit2: Acceleration feedforward enable switch. After the switch is enabled, the speed deviation can be reduced when the speed reference changes 0: Disable 1: Enable bit3 to bit4: Acceleration feedforward torque source selection 0: Torque set by parameter The torque reference is superimposed with the torque transmitted by B8-85. 1: Automatic calculation The torque required for acceleration is automatically calculated internally based on the set speed change and inertia. 2: Acceleration superposition The software automatically calculates the torque required during acceleration based on the acceleration set by B9-00 and the motor inertia. Bit5: When the switch is enabled, the impact on the motor speed can be cleared during sudden load change. 0: Disable 1: Enable

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-81	Fast integral cancel coefficient upon motor stall	0xAA51	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When motor is stalled, output is still generated in the integral term of speed loop after the speed reference changes from zero to non-zero and back to zero again, leading to continuous torque output during zero speed reference. When this coefficient is a non-zero value, the speed loop integral term output will be decreased until this target value is reached.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-82	Integral torque	0xAA52	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Defines the forced value of integral term in speed loop forced integral mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

AA-83	Speed controller frequency window size	0xAA53	0.00Hz~10.00Hz	0.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: In the master-slave mode, when this drive is used as a slave in the torque mode, this frequency window is active.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-84	Current filter time for torque reference	0xAA54	0.0ms~100.0ms	0.0ms	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the filter time when the speed loop outputs the set torque current.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-85	Acceleration torque	0xAA55	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: When the acceleration feedforward torque source is set to 0, this parameter is used to set the acceleration torque. 0: Disable The acceleration torque is not enabled. 1: AI1 The frequency is input by the voltage signal through AI1. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4. 2: AI2 The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4. 3: AI3 The frequency reference is input by voltage signal through AI3. The frequency is calculated according to the AI curve. AI curves can be set in parameter group F4. 4: Pulse reference (DI5) The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency (F4-28 to F4-31).							

5: Communication
The main frequency is set through communication. This mode is applicable to applications requiring remote control or centralized control of multiple devices. In this mode, you can input the frequency through remote communication. In this case, the AC drive must be installed with a communication card for communicating with the host controller.
The communication address is 0x1000, indicating the percentage reference. The value ranges from -10000 to 10000. 0 represents 0%, 10000 represents 100%, and -10000 represents -100%.
Note: Communication settings are generally used to write the frequency. It is recommended to select a connector for other parameter source selection.
6: Multi-reference
In the multi-reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals (assigned with functions 12 to 15) can provide 16 states, corresponding to 16 frequencies (set by FC-00 to FC-15).
7: Motorized potentiometer
The real-time target speed is set by the motorized potentiometer module output.
8: PID
PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control. Set PID-related parameters in group FA.
Others: F connector
A function code is set for a float connector, and the value of the connector is read as the auxiliary frequency reference. It is used for extension of common sources.
Note: When analog/pulse/communication is used as the reference source, 0 to full range correspond to 0 to 100% of the rated motor torque.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-87	Reference model bandwidth	0xAA57	0.00Hz~300.00Hz	0.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the speed filter time upon acceleration feedforward.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-88	Torque feedforward coefficient	0xAA58	0.0%~6553.5%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is used to adjust the feedforward torque. With the acceleration feedforward enabled, if the speed still does							

	not reach the speed reference after the feedback speed adjustment during acceleration, increase this parameter value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-89	Vector control reference frequency filter time	0xAA59	0.0ms~100.0ms	0.0ms	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the set frequency filter time in vector control.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-90	Vector control feedback frequency filter time	0xAA5A	0.0ms~100.0ms	0.0ms	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Filter time for feedback frequency in vector control							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-91	Load observation bandwidth	0xAA5B	0.00Hz~300.00Hz	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the load observer bandwidth.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-92	Load observation coefficient	0xAA5C	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to adjust the load observer torque of compensation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-93	Pseudo integral coefficient	0xAA5D	0.000~10.000	1.000	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: Used to adjust PDFF intensity.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-94	Torque coefficient enable	0xAA5E	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: When the torque coefficient is enabled, the actual flux is taken into account during calculating torque output, which is the actual torque. When the torque coefficient is not enabled, the displayed output torque and torque current is calculated based on 1:1, without torque coefficient conversion.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-95	Low-frequency Kp switchover selection	0xAA5F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: 1 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B connector							
	Description: When enabled, the proportional term of the speed loop is modified by AA-53. 0: Disabled 1: Enable to perform low-frequency Kp switchover 2: Terminal function input 3 to 18: DI1 to DI16 controlled by high/low level of DI terminals Others: B connector Determined by the signal or function state of the parameter that the connector is connected to.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

AA-96	Center frequency of notch filter 1	0xAA60	0.0~4000.0	4000.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the torque current notch. When it is set to a non-zero value, the notch 1 is activated.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-97	Center frequency of notch filter 2	0xAA61	0.0~4000.0	4000.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the torque current notch. When it is set to a non-zero value, the notch 2 is activated.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-98	Integral setting control word	0xAA62	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled 0: B-connector							
	Description: After enabled, the integral term of speed loop is set by the channel in AA-99 forcibly. 0: Inactive 1: Set Others: B connector Determined by the signal or function state of the parameter that the connector is connected to.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AA-99	Integral reference source	0xAA63	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Digital setting 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							

	Description： Forced value source of speed loop integral term 0: Digital setting AA-82 used as the source 1: AI1 The frequency reference is input by current or voltage signal through the AI1. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4. 2: AI2 The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4. The frequency reference is input by voltage signal through AI3. The frequency is calculated according to the AI curve. AI curves can be set in parameter group F4. 4: Pulse reference (DI5) The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency (F4-28 to F4-31). 5: Communication The main frequency is set through communication. This mode is applicable to applications requiring remote control or centralized control of multiple devices. In this mode, you can input the frequency through remote communication. In this case, the AC drive must be installed with a communication card for communicating with the host controller. The communication address is 0x1000, indicating the percentage reference. The value ranges from -10000 to 10000. 0 represents 0%, 10000 represents 100%, and -10000 represents -100%. Note: Communication settings are generally used to write the frequency. It is recommended to select a connector for other parameter source selection. 6: Multi-reference In the multi-reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals (assigned with functions 12 to 15) can provide 16 states, corresponding to 16 frequencies (set by FC-00 to FC-15). 7: Motorized potentiometer The real-time target speed is set by the motorized potentiometer module output. 8: PID PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control. Set PID-related parameters in group FA. Others: F connector A parameter No. is set for a float connector, and the value of the connector is read as the auxiliary frequency reference. It is used for extension of common sources. Note: When analog/pulse/communication is used as the reference source, 0 to full range correspond to 0 to 100% of the rated motor torque.

AB Motor Control Parameter 1

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-00	Externally transferred acceleration	0xAB00	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: Inactive
1: AI1
2: AI2
3: AI3
4: Pulse reference
5: Communication
6: Multi-reference
7: Motor-driven potentiometer
8: PID
0: F-connector

Description:

When set to a value other than 0, this parameter is used to set the acceleration.

0: Inactive

1: AI1

The frequency is input by voltage signal through the AI1. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4.

2: AI2

The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4.

3: AI3

The frequency reference is input by voltage signal through AI3. The frequency is calculated according to the AI curve. AI curves can be set in parameter group F4.

4: Pulse reference (DI5)

The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency (F4-28 to F4-31).

5: Communication

The main frequency is set through communication. This mode is applicable to applications requiring remote control or centralized control of multiple devices. In this mode, you can input the frequency through remote communication. In this case, the AC drive must be installed with a communication card for communicating with the host controller.

The communication address is 0x1000, indicating the percentage reference. The value ranges from -10000 to 10000. 0 represents 0%, 10000 represents 100%, and -10000 represents -100%.

Note: Communication settings are generally used to write the frequency. It is recommended to select a connector for other parameter source selection.

6: Multi-reference

In the multi-reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals (assigned with functions 12 to 15) can provide 16 states, corresponding to 16 frequencies (set by FC-00 to FC-15).

7: Motorized potentiometer

The real-time target speed is set by the motorized potentiometer module output.

8: PID

PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in

	which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control. Set PID-related parameters in group FA. Others: F connector A parameter No. is set for a float connector, and the value of the connector is read as the auxiliary frequency reference. It is used for extension of common sources. Note: When analog/pulse/communication is used as the reference source, 0 to full range correspond to 0 to 100% of the rated motor torque. When the externally transferred acceleration multiplies the inertia ratio, the value is the torque multiplied by the corresponding percentage.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-01	Current deviation threshold	0xAB01	0.3~2.0	0.5	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: This parameter is active only in ImCsr2 mode. When the feedback excitation current exceeds the set excitation current plus the threshold, the low-speed loop gain will no longer be zero.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-02	Current filter cycle setting	0xAB02	0~100	1	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Used to set the filter time set for the current loop, which is a multiplier relative to the execution time.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-03	Overturning torque limiting coefficient	0xAB03	0.0%~400.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust the motor torque limit. An excessively high setpoint may cause the motor to operate in the breakdown torque area, which means low torque output at high current. An excessively low value can restrict the torque output capacity of the motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

AB-04	Motoring power limiting coefficient	0xAB04	0.0%~400.0%	400.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the motoring power limit coefficient.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-05	Generating power limiting coefficient	0xAB05	0.0%~400.0%	400.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the generating power limit coefficient.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-06	Overspeed limiting enable	0xAB06	0~1	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to activate the overspeed controller in torque mode. 0: Inactive 1: Active							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-07	Sine wave frequency of bandwidth test	0xAB07	0Hz~1000Hz	0Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When testing the bandwidth in the speed loop ,the set speed is superimposed with the sine signal frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-08	Sine wave amplitude of bandwidth test	0xAB08	0%~100%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When testing the bandwidth in the speed loop, the set speed is superimposed with the sine signal amplitude.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-09	Bandwidth test enable	0xAB09	0~4	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When testing the bandwidth in the speed loop, the set speed is superimposed with the sine reference.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-10	Torque coefficient adjustment value	0xAB0A	0.0%~200.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to correct the coefficient of reluctance torque term of permanent magnet synchronous motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-11	Speed loop parameter calculation mode	0xAB0B	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: New solution 1: Compatible solution							
	Description: Speed loop parameter calculation mode 0: New solution The speed loop parameter tuning gain is set by AB-12...AB-22 1: Compatible scheme The speed loop parameter tuning gain that compatible with MD500 platform is set by F2-00, F2-01, F2-03, and F2-04.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-12	Speed loop proportional gain in FVC mode	0xAB0C	0.00Hz~100.00Hz	8.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop proportional gain in FVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-13	Speed loop integral time in FVC mode	0xAB0D	0.000s~20.000s	0.080s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop integral time in FVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-14	Speed loop proportional gain in SVC mode	0xAB0E	0.00Hz~100.00Hz	5.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop proportional gain in SVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-15	Speed loop integral time in SVC mode	0xAB0F	0.000s~20.000s	0.127s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop integral time in FVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-16	Low frequency proportional correction coefficient	0xAB10	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Activated when AB-11 is set to 0. When the speed is lower than F2-02, the speed loop parameter is adjusted through this parameter.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-17	Low frequency integral correction coefficient	0xAB11	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	Activated when AB-11 is set to 0. When the speed is lower than F2-02, the speed loop parameter is adjusted through this parameter.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-18	Speed loop adaption factor	0xAB12	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: Inactive
1: AI1
2: AI2
3: AI3
4: PULSE setting
5: Communication setting
6: Multi-speed reference
7: Motorized potentiometer
8: PID
0: F connector

Description:

When the speed loop adaption factor is not 0, the speed loop adaption factor is set through this channel. A speed loop adaption coefficient is calculated based on AB-19 to AB-22. This coefficient is used to calculate the proportional gain and integral gain of the speed loop that are finally effective.

0: Inactive

1: AI1

The frequency is input by voltage signal through the AI1. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4.

2: AI2

The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4.

3: AI3

The frequency reference is input by voltage signal through AI3. The frequency is calculated according to the AI curve. AI curves can be set in parameter group F4.

4: Pulse reference (DI5)

The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency (F4-28 to F4-31).

5: Communication

The main frequency is set through communication. This mode is applicable to applications requiring remote control or centralized control of multiple devices. In this mode, you can input the frequency through remote communication. In this case, the AC drive must be installed with a communication card for communicating with the host controller.

The communication address is 0x1000, indicating the percentage reference. The value ranges from -10000 to 10000. 0 represents 0%, 10000 represents 100%, and -10000 represents -100%.

Note: Communication settings are generally used to write the frequency. It is recommended to select a connector for other parameter source selection.

6: Multi-reference

In the multi-reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals (assigned with functions 12 to 15) can provide 16 states, corresponding to 16 frequencies (set

	by FC-00 to FC-15). 7: Motorized potentiometer The real-time target speed is set by the motorized potentiometer module output. 8: PID PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control. Set PID-related parameters in group FA. Others: F connector A parameter No. is set for a float connector, and the value of the connector is read as the auxiliary frequency reference. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-19	Speed loop adaptive switchover lower limit	0xAB13	0.000~10.000	0.400	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the lower limit of speed loop adaptive switchover. When the value set by AB-18 is lower than that set by AB-19, the speed loop adaption correction coefficient is AB-22. When the value set by AB-18 is higher than that set by AB-20, the speed loop adaption correction coefficient is AB-21. When AB-18 is between AB-19 and AB-20, the speed loop adaption correction coefficient switches linearly between AB-21 and AB-22.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-20	Speed loop adaptive switchover upper limit	0xAB14	0.000~10.000	1.000	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the upper limit of speed loop adaptive switchover. When the value set by AB-18 is lower than that set by AB-19, the speed loop adaption correction coefficient is AB-22. When the value set by AB-18 is higher than that set by AB-20, the speed loop adaption correction coefficient is AB-21. When AB-18 is between AB-19 and AB-20, the speed loop adaption correction coefficient switches linearly between AB-21 and AB-22.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-21	Speed loop adaptive correction upper limit	0xAB15	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	Used to set the upper limit of speed loop adaptive correction. When the value set by AB-18 is lower than that set by AB-19, the speed loop adaption correction coefficient is AB-22. When the value set by AB-18 is higher than that set by AB-20, the speed loop adaption correction coefficient is AB-21. When AB-18 is between AB-19 and AB-20, the speed loop adaption correction coefficient switches linearly between AB-21 and AB-22.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-22	Speed loop adaptive correction lower limit	0xAB16	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the lower limit of speed loop adaptive correction. When the value set by AB-18 is lower than that set by AB-19, the speed loop adaption correction coefficient is AB-22. When the value set by AB-18 is higher than that set by AB-20, the speed loop adaption correction coefficient is AB-21. When AB-18 is between AB-19 and AB-20, the speed loop adaption correction coefficient switches linearly between AB-21 and AB-22.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-23	Flux adaptation enable	0xAB17	0~1	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When this function is enabled, the speed loop parameter decreases with the flux reduction in the field weakening range, which prevents speed loop oscillation in the field weakening range.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-24	Overspeed controller correction coefficient	0xAB18	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the adjustment value of torque reference when the speed limit is exceeded in the torque mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-25	Vector overvoltage/undervoltage suppression control command word	0xAB19	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value:							

Bit	Name	Value
bit0	Under voltage suppression	0: Disable 1: Enable
bit1	Overvoltage suppression	0: Disable 1: Enable
bit2	Automatic calculation of overvoltage/Under voltage suppression threshold	0: Disable 1: Enable
bit3	Overvoltage/Under voltage suppression integral action	0: Disable 1: Enable

Description:

The command word takes effect in vector control mode.

Bit0: Undervoltage suppression

Bit1: Overvoltage suppression

Bit2: Automatic calculation of overvoltage/undervoltage suppression threshold (In automatic calculation mode, the overvoltage suppression threshold is overvoltage threshold minus 70 V, the undervoltage suppression threshold is undervoltage threshold plus 50 V.)

Bit3: Overvoltage/Undervoltage suppression integral action

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-26	Bus capacitance ratio	0xAB1A	50.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust the overvoltage/undervoltage suppression PI parameter in the vector mode. Set this parameter based on the number of drives that share the same common bus in actual application.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-27	Vector undervoltage suppression exit from hysteresis frequency	0xAB1B	0.00Hz~10.00Hz	3.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When the operating frequency is higher than the minimum frequency plus this frequency, the undervoltage suppression state applies.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-28	Speed threshold for vector undervoltage suppression	0xAB1C	0.00Hz~20.00Hz	2.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real

	failure							time
	Description: When vector undervoltage suppression reaches this frequency, the undervoltage suppression state will be canceled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-29	Dynamic adjustment coefficient of vector overvoltage/undervoltage suppression	0xAB1D	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the proportional coefficient adjustment term of overvoltage/undervoltage suppression.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-30	Activation voltage of vector undervoltage suppression	0xAB1E	320.0V~540.0V	430.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the activation voltage of vector undervoltage suppression.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-31	Activation voltage of vector overvoltage suppression	0xAB1F	650.0V~800.0V	770.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Activation voltage of vector overvoltage suppression							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-32	Flux linkage control command word	0xAB20	Refer to "Value"	18741	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
bit0	Output voltage limit calculation filter mode	0: Symmetric filter 1: Asymmetric filter

bit1	Inverse ratio curve calculation mode of asynchronous motor	0: Inverse ratio synchronous frequency reduced 1: Inverse ratio speed reduced
bit2	Linkage feedforward of inverse ratio speed calculation	0: Disable 1: Enable
bit3	Reserved	
bit4	Reserved	
bit5	Field weakening through adjustment	0: Disable 1: Field weakening through adjustment
bit6	Linkage derivative feedforward	0: Disable 1: Enable
bit7	Energy-saving control	0: Disable 1: Enable
bit8	Flux closed-loop of asynchronous motor	0: Disable 1: Enable
bit9	Reserved	
bit10	Reserved	
bit11	Asynchronous motor pre-excitation mode selection	0: Pre-excitation based on time
bit12	Pre-excitation current of asynchronous motor	0: Pre-excitation based on the set current 1: Pre-excitation current being the max. current allowed by the platform
bit13	Reserved	
bit14	Voltage outer loop mode	0: Voltage outer loop mode 0 1: Voltage outer loop mode 1
bit15	MTPA inductance	0: Saturated 1: Non-saturated

Description:

Bit00: Output voltage limit calculation filter mode

0 corresponds to first-order filter. 1 corresponds to bus voltage rise filter.

Bit01: Inverse ratio curve calculation mode of asynchronous motor

To prevent saturation of field weakening range, select 1 to lower the turnover frequency. The setting is active when bit 2 is set to 1.

Bit 2: Inverse ratio speed calculation linkage feedforward

When bit02 is set to 1, the inverse ratio speed reduces when the output frequency exceeds the turnover frequency, thus improve the dynamic responsiveness during acceleration.

Bit 5: Field weakening through adjustment

When bit05 is set to 1, the voltage outer loop adjustment is active.

Bit 7: Energy-saving control

When the asynchronous motor is active, bit07 can be used to reduce the copper loss at light load during vector control.

Bit 8: Asynchronous motor flux closed-loop

	0: Disable 1: Enable Bit 11: Pre-excitation mode of asynchronous motor 0: Pre-excitation done within the set time 1: Fixed current outputted during pre-excitation, exit when linkage reaching the setpoint Bit 12: Asynchronous motor pre-excitation current 0: Pre-excitation based on the current defined by AB-51 1: Pre-excitation based on the maximum current allowed by the drive, the pre-excitation time can be reduced Bit 14: Voltage outer loop mode 0: Synchronous motor mode 1: Asynchronous motor mode Bit 15: MTPA inductance 0: Saturated 1: Not saturated

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-33	Voltage margin	0xAB21	1%~50%	3%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Decreasing the setpoint can improve voltage utilization. The current is smaller under the same load in the field weakening region. However, an excessively small setpoint will affect dynamic performance.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-34	Output voltage upper limit margin for auto adjustment of field weakening	0xAB22	1%~20%	3%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When F2-18 is set to 2, changing the setpoint affects the voltage margin, which is similar to AB-33.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-35	Filter time for calculating maximum output voltage	0xAB23	0ms~3000ms	10ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Increasing the filter time allows the maximum output voltage to change slowly but affects voltage utilization.							

Param	Name	Communication	Range	Default	Data	Change	User	Effective

		address			type	mode	authority	mode
AB-36	Rated flux adjustment coefficient for calculation	0xAB24	0.1~2.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: You can decrease the value of this parameter if under excitation is required, or increase it if over-excitation is required.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-37	Field weakening frequency adjustment coefficient for calculation	0xAB25	0.8~1.2	1.1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust the conversion frequency calculated automatically by the AC drive. After the flux linkage feedforward is enabled, decreasing this value makes the drive enter the field weakening state in advance. This function is applicable to applications requiring high dynamic response with short acceleration time.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-38	Slip filter time for calculating field weakening frequency	0xAB26	0ms~3000ms	62ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux linkage feedforward calculation by using inverse proportional speed is enabled, increasing the value of this parameter can reduce the fluctuation range of the calculated reference flux linkage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-39	Feedback speed filtering	0xAB27	0ms~8000ms	50ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux linkage feedforward calculation by using inverse proportional speed is enabled, increasing the value of this parameter can reduce the disturbance to the calculated flux linkage feedforward introduced by speed test.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-40	Flux linkage rising filter time	0xAB28	0ms~8000ms	20ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real

								time
	Description: When flux linkage feedforward calculation by using inverse proportional speed is enabled, this parameter defines the filter time of the asymmetric filter that takes effect only when the reference flux linkage increases.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-41	Field weakening control gain	0xAB29	1ms~200ms	50ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-42	Feedback voltage filter time	0xAB2A	0ms~3000ms	0ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Increasing the filter time can reduce the fluctuation of the excitation current setting. To increase the field weakening gain, reduce the filter time. Otherwise, the system will oscillate.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-43	Maximum demagnetization current of synchronous motor	0xAB2B	0%~500%	300%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter is used to limit the demagnetization current of synchronous motors to prevent faults such as overload. It is a percentage relative to the rated current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-44	Voltage outer loop lower limit coefficient	0xAB2C	0~500	50	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter is used to limit the lower limit of flux linkage during field weakening for asynchronous motors to avoid limiting torque reduction.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-45	Flux linkage derivative feedforward coefficient	0xAB2D	0.0~1.5	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real

								time
	Description: Used to adjust the ratio of the feedforward value. The lower the value, the smaller the feedforward impact will be.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-46	Flux linkage derivative feedforward filter time	0xAB2E	0ms~3000ms	6ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Increasing the filter time can reduce the fluctuation of the calculated feedforward value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-47	Torque current rising filter time under energy conservation control	0xAB2F	0ms~3000ms	50ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When energy conservation control of an asynchronous motor is enabled, decreasing the value of this parameter can improve dynamic response and avoid a large drop in speed when a sudden load is applied. You need to increase this value when the output current fluctuates greatly.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-48	Torque current falling filter time under energy conservation control	0xAB30	0ms~3000ms	100ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When energy conservation control of an asynchronous motor is enabled, decreasing the value of this parameter can make the output current decrease rapidly after the load is reduced. You need to increase this value when the output current fluctuates greatly.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-49	Flux linkage lower limit coefficient under energy conservation control	0xAB31	0.00~1.00	0.10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter defines the minimum flux linkage allowed under energy conservation control. A smaller value indicates							

	more significant energy conservation effect when no load is applied, but it will affect dynamic response after the load is added.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-50	Switchover frequency coefficient	0xAB32	0.0~10.0	1.0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the minimum permissible frequency when ImCsr2 high-speed mode cuts in the PI section.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-51	Pre-excitation current	0xAB33	1%~200%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When pre-excitation of an asynchronous motor is implemented based on current, this parameter defines the reference excitation current as a percentage of the rated current.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-52	Pre-excitation time	0xAB34	1ms~30000ms	1000ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When pre-excitation of an asynchronous motor is implemented based on time, this parameter defines the total excitation time. The actual excitation time will be shorter than the set time if remanence exists.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-53	Flux linkage closed-loop bandwidth frequency	0xAB35	0.0Hz~100.0Hz	1.0Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux closed loop is enabled, increasing the setpoint can reduce the deviation of the flux linkage from the rated value during dynamic processes such as sudden load or acceleration and deceleration of the asynchronous motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

AB-54	Feedback flux linkage filter time coefficient	0xAB36	0~200	4	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux closed loop is enabled, increasing the setpoint can reduce fluctuation of the reference flux linkage. It is a percentage relative to the rotor time constant.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-55	Static output flux linkage filter time	0xAB37	0ms~5000ms	10ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Increasing the setpoint can reduce fluctuation of the reference flux linkage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-57	PI regulator proportional gain adaptation with load	0xAB39	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Value: 0: Disabled 1: Enabled							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-58	Current loop damping	0xAB3A	0.2~10.0	0.8	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Decreasing the value of this parameter can enhance current loop following but also increase the overshoot and harmonics of the output current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-59	Low-speed current loop Kp adjustment	0xAB3B	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description:							

	The AC drive automatically calculates the current loop gain based on motor parameters. When the current oscillates at low speed or the torque fluctuates greatly, the set value can be reduced appropriately.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-60	High-speed current loop Kp adjustment	0xAB3C	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The AC drive automatically calculates the current loop gain based on motor parameters. When the current oscillation at high speed or torque fluctuation is large, the set value can be reduced appropriately.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-61	Current loop Ki adjustment at low speed	0xAB3D	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The AC drive automatically calculates the current loop gain based on motor parameters. When the current oscillates at low speed or the torque fluctuates greatly, the set value can be reduced appropriately.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-62	High-speed current loop Ki adjustment	0xAB3E	0.1~10.0	2.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The AC drive automatically calculates the current loop gain based on motor parameters. When the current oscillation at high speed or torque fluctuation is large, the set value can be reduced appropriately.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-63	D-axis current loop complex vector adjustment	0xAB3F	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-64	Q-axis current loop complex vector adjustment	0xAB40	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-65	Complex vector hysteresis	0xAB41	0%~AB-66	0%	Unsigned	Real time	Expert	Effective

	frequency lower limit as a percentage of rated frequency				16 bit	changes	user	in real time
	Description: Used to set the lower limit of complex vector hysteresis frequency, which is a percentage of rated frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-66	Complex vector hysteresis frequency upper limit as a percentage of rated frequency	0xAB42	AB-65~150%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the upper limit of complex vector hysteresis frequency, which is a percentage of rated frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-67	ImCsr2 hysteresis switchover voltage upper limit as a percentage of saturation voltage	0xAB43	AB-68~95%	89%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the upper limit voltage for ImCsr2 hysteresis switchover, which is a percentage of saturation voltage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-68	ImCsr2 hysteresis switchover voltage lower limit as a percentage of saturation voltage	0xAB44	60%~AB-67	79%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the lower limit voltage for ImCsr2 hysteresis switchover, which is a percentage of saturation voltage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-69	ImCsr2 hysteresis switchover frequency hysteresis range as a percentage of rated frequency	0xAB45	1%~30%	10%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: Used to set ImCsr2 hysteresis range of hysteresis switchover frequency, which is a percentage of rated frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-70	ImCsr2 hysteresis switchover frequency lower limit (below which the hysteresis condition does not take effect) as a percentage of the rated frequency	0xAB46	20%~150%	75%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the lower limit of ImCsr2 hysteresis switchover frequency. The frequency hysteresis condition does not activate when this value is not reached. The setpoint is a percentage of rated frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-71	ImCsr2 current loop Kss adjustment	0xAB47	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-72	Proportional gain adjustment coefficient corresponding to the maximum torque when proportional gain is adjusted with load	0xAB48	0.1~1.0	0.5	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-73	Torque upper limit setpoint as a percentage of rated torque when proportional gain is adjusted with load	0xAB49	AB-74~300%	200%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-74	Torque lower limit setpoint as a percentage of rated torque when proportional gain is adjusted with load	0xAB4A	10%~AB-73	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-75	Derivative feedforward adjustment	0xAB4B	0.0~1.0	0.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication	Range	Default	Data	Change	User	Effective

		address			type	mode	authority	mode
AB-76	Decoupling control start frequency as a percentage of rated frequency	0xAB4C	20%~150%	60%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-77	Decoupling control filter time adjustment coefficient	0xAB4D	0.1~3.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-78	Decoupling control output adjustment coefficient	0xAB4E	0.0~1.0	0.7	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-79	CPC feedforward enable	0xAB4F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Disabled

1: Enabled

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-80	Current loop auxiliary command word	0xAB50	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

Bit	Name	Value
bit0	Complex vector angle limiting	0: Disabled 1: Enabled
bit1	Voltage angle limiting	0: Program internal limiting 1: Parameter setting
bit2	0 by default	0: No lower limit on the excitation current is imposed during the dynamic process. 1: A lower limit on the excitation current is imposed during the dynamic process in ImCsr2 mode.
bit3	Reserved (0 by default)	

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

AB-81	Voltage angle upper limit	0xAB51	90°~180°	150°	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-82	Voltage angle lower limit	0xAB52	0°~90°	30°	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-83	Asynchronous motor D axis integral limit	0xAB53	0.500~1.000	0.707	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-84	Current loop carrier frequency upper limit	0xAB54	5.0~16.0	8.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-85	Droop enable	0xAB55	0~1	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Adjust the frequency reference based on the load to soften the mechanical characteristics. This function is used for balancing the workload allocation when multiple motors are used to drive the same load.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-86	Droop source	0xAB56	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Line current 1: Torque reference 2: Speed adjustment output 3: Speed adjustment integral component							
	Description: Used to adjust the reference frequency. The higher the setpoint, the higher the frequency adjustment value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-87	Frequency reference droop coefficient	0xAB57	0.0%~50.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time

	Description: Used to adjust the soften source.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-88	FVC-SVC switchover mode	0xAB58	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Not switched 1: Active switchover 2: Passive switchover mode 1 3: Passive switchover mode 2							
	Description: Used to select the mode for switching from FVC mode to SVC mode. 0: Do not switch to the SVC mode in the FVC mode. 1: Keep operating in FVC mode at low speed based on the speed frequencies set by AB-89 and AB-90, and then switch to SVC mode at high speed. This mode is applicable to operating conditions with signals disturbed. 2: Switch to SVC mode when encoder open circuit is detected. If the encoder is recovered during operation, the FVC mode will be recovered after stop. 3: Switch to SVC mode when encoder open circuit is detected. If the encoder is recovered during operation, the FVC mode will be recovered during operation or after stop. Note: This function is not supported by A3 (23-bit) encoders.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-89	FVC-SVC switchover frequency	0xAB59	10%~500%	50%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the frequency for switching from FVC to SVC when AB-88 = 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-90	FVC-SVC switchover hysteresis	0xAB5A	10%~100%	10%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the hysteresis for switching from FVC to SVC when AB-88 = 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-91	Synchronous motor SVC model parameter 1	0xAB5B	1~10000	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-92	Synchronous motor SVC model parameter 2	0xAB5C	1~10000	5	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-93	Synchronous motor SVC model parameter 3	0xAB5D	1~100	30	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-94	Synchronous motor SVC model parameter 4	0xAB5E	-100~+100	20	Signed 16 bits	Real time changes	Expert user	Effective in real time
AB-95	Synchronous motor SVC model parameter 5	0xAB5F	0~50000	30	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AB-96	Synchronous motor SVC command word	0xAB60	Refer to "Value"	62	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time

Value:

Bit	Name	Value
bit0	Low-speed processing mode	0: Disable 1: Mode 1 2: Mode 2
bit2	Energy saving optimization	0: Disable 1: Enable
bit3	Online auto-tuning of back EMF	0: Disable 1: Enable
bit4	Inductance mode	0: Fixed value 1: Saturation value 2: Mode 1 3: Mode 2

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

AB-97	Synchronous motor SVC low speed threshold 1	0xAB61	0.0%~10.0%	0.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-98	Synchronous motor SVC low speed threshold 2	0xAB62	0.0%~10.0%	0.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
AB-99	Synchronous motor SVC low speed voltage coefficient	0xAB63	0%~100%	50%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Use the default value generally.							

AC AI/AO Correction

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-00	AI1 measured voltage 1	0xAC00	-10.000V~+10.000V	2.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is conducted on AI1, a correction curve is obtained based on two points, which corresponds to a measured voltage and a displayed voltage. The measured voltage is the voltage measured using a meter, and the displayed voltage is the AI1 voltage before correction (U0-21).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-01	AI1 displayed voltage 1	0xAC01	-10.000V~+10.000V	2.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is conducted on AI1, a correction curve is obtained based on two points, which corresponds to a measured voltage and a displayed voltage. The measured voltage is the voltage measured using a meter, and the displayed voltage is the AI1 voltage before correction (U0-21).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-02	AI1 measured voltage 2	0xAC02	-10.000V~+10.000V	8.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is conducted on AI1, a correction curve is obtained based on two points, which							

	corresponds to a measured voltage and a displayed voltage. The measured voltage is the voltage measured using a meter, and the displayed voltage is the AI1 voltage before correction (U0-21).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-03	AI1 displayed voltage 2	0xAC03	-10.000V~+10.000V	8.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is conducted on AI1, a correction curve is obtained based on two points, which corresponds to a measured voltage and a displayed voltage. The measured voltage is the voltage measured using a meter, and the displayed voltage is the AI1 voltage before correction (U0-21).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-04	AI2 measured voltage 1	0xAC04	-10.000V~+10.000V	2.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is conducted on AI2, a correction curve is obtained based on two points, which corresponds to a measured voltage and a displayed voltage. The measured voltage is the voltage measured using a meter, and the displayed voltage is the AI2 voltage before correction (U0-22).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-05	AI2 displayed voltage 1	0xAC05	-10.000V~+10.000V	2.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is conducted on AI2, a correction curve is obtained based on two points, which corresponds to a measured voltage and a displayed voltage. The measured voltage is the voltage measured using a meter, and the displayed voltage is the AI2 voltage before correction (U0-22).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-06	AI2 measured voltage 2	0xAC06	-10.000V~+10.000V	8.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is conducted on AI2, a correction curve is obtained based on two points, which corresponds to a measured voltage and a displayed voltage. The measured voltage is the voltage measured using a meter, and the displayed voltage is the AI2 voltage before correction (U0-22).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-07	AI2 displayed voltage 2	0xAC07	-10.000V~+	8.000V	Signed 16 bits	Shutdown change	General user	Effective in real time

			10.000V					
	Description: When analog voltage correction is conducted on AI2, a correction curve is obtained based on two points, which corresponds to a measured voltage and a displayed voltage. The measured voltage is the voltage measured using a meter, and the displayed voltage is the AI2 voltage before correction (U0-22).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-08	AI3 measured voltage 1	0xAC08	-10.000V~+10.000V	2.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is conducted on AI3, a correction curve is obtained based on two points, which corresponds to a measured voltage and a displayed voltage. The measured voltage is the voltage measured using a meter, and the displayed voltage is the AI3 voltage before correction (U0-23).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-09	AI3 displayed voltage 1	0xAC09	-10.000V~+10.000V	2.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is conducted on AI3, a correction curve is obtained based on two points, which corresponds to a measured voltage and a displayed voltage. The measured voltage is the voltage measured using a meter, and the displayed voltage is the AI3 voltage before correction (U0-23).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-10	AI3 measured voltage 2	0xAC0A	-10.000V~+10.000V	8.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is conducted on AI3, a correction curve is obtained based on two points, which corresponds to a measured voltage and a displayed voltage. The measured voltage is the voltage measured using a meter, and the displayed voltage is the AI3 voltage before correction (U0-23).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-11	AI3 displayed voltage 2	0xAC0B	-10.000V~+10.000V	8.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is conducted on AI3, a correction curve is obtained based on two points, which corresponds to a measured voltage and a displayed voltage. The measured voltage is the voltage measured using a meter, and the displayed voltage is the AI3 voltage before correction (U0-23).							
Param	Name	Communication	Range	Default	Data type	Change mode	User	Effective

		address					authority	mode
AC-12	AO1 target voltage 1	0xAC0C	-10.000V~+10.000V	2.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is carried out on the AO1 terminal, a correction curve is formed through two points. Each point corresponds to a target voltage and a measured voltage. The target voltage is the expected output voltage, and the measured voltage is the output voltage measured.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-13	AO1 measured voltage 1	0xAC0D	-10.000V~+10.000V	2.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is carried out on the AO1 terminal, a correction curve is formed through two points. Each point corresponds to a target voltage and a measured voltage. The target voltage is the expected output voltage, and the measured voltage is the output voltage measured.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-14	AO1 target voltage 2	0xAC0E	-10.000V~+10.000V	8.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is carried out on the AO1 terminal, a correction curve is formed through two points. Each point corresponds to a target voltage and a measured voltage. The target voltage is the expected output voltage, and the measured voltage is the output voltage measured.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-15	AO1 measured voltage 2	0xAC0F	-10.000V~+10.000V	8.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is carried out on the AO1 terminal, a correction curve is formed through two points. Each point corresponds to a target voltage and a measured voltage. The target voltage is the expected output voltage, and the measured voltage is the output voltage measured.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-16	AO2 target voltage 1	0xAC10	-10.000V~+10.000V	2.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is carried out on the AO2 terminal, a correction curve is formed through two points. Each							

	point corresponds to a target voltage and a measured voltage. The target voltage is the expected output voltage, and the measured voltage is the output voltage measured.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-17	AO2 measured voltage 1	0xAC11	-10.000V~+10.000V	2.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is carried out on the AO2 terminal, a correction curve is formed through two points. Each point corresponds to a target voltage and a measured voltage. The target voltage is the expected output voltage, and the measured voltage is the output voltage measured.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-18	AO2 target voltage 2	0xAC12	-10.000V~+10.000V	8.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is carried out on the AO2 terminal, a correction curve is formed through two points. Each point corresponds to a target voltage and a measured voltage. The target voltage is the expected output voltage, and the measured voltage is the output voltage measured.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
AC-19	AO2 measured voltage 2	0xAC13	-10.000V~+10.000V	8.000V	Signed 16 bits	Shutdown change	General user	Effective in real time
	Description: When analog voltage correction is carried out on the AO2 terminal, a correction curve is formed through two points. Each point corresponds to a target voltage and a measured voltage. The target voltage is the expected output voltage, and the measured voltage is the output voltage measured.							

B6 Start Control & Protection Parameters of Motor 2

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-00	Startup mode	0xB600	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

	Value: 0: Direct start 1: Flying start 2: Pre-excitation start (AC asynchronous motor) 3: SVC quick start
	Description: Flying start is recommended if you need to start a motor that is rotating at a high speed. The pre-excitation start and SVC quick start apply to AC asynchronous motors only. 0: Direct start The AC drive adopts direct start, which is suitable for most loads. 1: Flying start The AC drive first judges the speed and direction of the motor and starts at the motor frequency tracked. 2: Pre-excitation start (for AC asynchronous motor) This mode applies only to inductive AC asynchronous motors in SVC and FVC control modes. Pre-excitation of the motor before start can improve the responsiveness of the motor and reduce the starting current. 3: SVC quick start It is applicable only to the asynchronous motor SVC control mode. This mode can be used to shorten the acceleration time. This mode can be enabled when the system inertia is large and quick start is required, but a torque shock can also be generated.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-01	Speed tracking mode	0xB601	Refer to "Value"	4	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: From the stop frequency 1: From the power frequency 2: From the maximum frequency 3: Reserved 4: Magnetic field directional speed tracking (MD290)							
	Description: The start frequency of flying start upon restart varies with different modes. The motor rotation direction cannot be detected during flying start. Therefore, the direction defined by the present start command must be the same as the direction at the last stop event. Otherwise, flying start fails. 0: Starting from the stop frequency The search mode from the stop frequency is to search for 0 Hz from the frequency at the previous stop. If external force drives the motor to a higher speed than the speed at stop, the flying start mode is not applicable. 1: Starting from the mains frequency This mode is applicable to the scenario where the motor is restarted after stop for a long time. 2: Starting from the max. frequency Track down from the max. frequency. This mode is applicable to generating loads. 3: Reserved							

	4: Magnetic field position-based speed tracking Used for fast speed tracking in V/f mode (static motor parameter auto-tuning is required).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-02	Speed of speed tracking	0xB602	1~100	20	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to select the speed tracking speed. The higher the setpoint, the higher the tracking speed. But an excessively high value may lead to unstable tracking.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-03	Startup frequency	0xB603	0.00Hz~10.00Hz	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the startup frequency for direct start of the AC drive. When the frequency reference is lower than the startup frequency, the AC drive will not start but stay standby.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-04	Startup frequency hold time	0xB604	0.0s~100.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter defines the hold time during which the output frequency remains at the startup frequency. After this hold time elapses, the AC drive will accelerate/decelerate to the reference frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-05	DC braking current at startup	0xB605	0%~100%	50%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: A larger DC braking current indicates stronger braking force. 100% corresponds to the rated motor current (the current upper limit is 80% of the rated current of the AC drive).							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
B6-06	DC braking time at startup	0xB606	0.0s~100.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter defines the time for DC braking at startup, which is valid only when the startup mode is direct start.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-07	Stop mode	0xB607	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Decelerate to stop 1: Coast to stop 2: Stop at maximum capability							
	Description: This parameter is used to select the stop mode of the AC drive. 0: Decelerate to stop Once the stop command is input, the AC drive decreases the output frequency to 0 and then stops based on the deceleration time. 1: Coast to stop Once the stop command is input, the AC drive immediately stops output. The motor then coasts to stop based on the mechanical inertia. 2: Stop at maximum capability. The motor speed reference is set to 0 forcibly. The motor decelerates to 0 based on the maximum output capacity. The motor torque or current may reach the limit value during deceleration.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-08	Start frequency of DC braking at stop	0xB608	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: During decelerating to stop, the drive starts DC braking when the operating frequency drops below the value of F6-11.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-09	DC braking delay at	0xB609	0.0s~100.0s	0.0s	Unsigned	Real time	General	Effective

	stop				16 bit	changes	user	in real time
	Description: When the running frequency decreases to the start frequency of DC braking at stop, the AC drive stops output and starts DC braking after this waiting time.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-10	DC braking current at stop	0xB60A	0%~100%	50%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: A larger DC braking current indicates stronger braking force. 100% corresponds to the rated motor current (the current upper limit is 80% of the rated current of the AC drive).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-11	DC braking time at stop	0xB60B	0.0s~100.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: If this parameter is set to 0, DC braking is disabled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-12	Speed tracking sweep current limit closed loop Kp	0xB60C	0~1000	500	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: It takes effect when B6-01 is set to 0, 1, or 2. It is used to set the proportional gain of the current suppression PI regulator during the speed search process in the flying start mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-13	Frequency sweeping current amplitude closed-loop Ki in speed tracking	0xB60D	0~1000	800	Unsigned 16 bit	Real time changes	General user	Effective in real time
B6-14	Speed tracking current	0xB60E	30%~200%	80%	Unsigned	Shutdown	General	Effective

					16 bit	change	user	in real time
	Description: Generally, overcurrent will occur on the asynchronous motor due to large slip when flying start is adopted. The current must be limited for preventing overcurrent. This parameter is used to set the motor current to be suppressed in the process of flying start.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-15	Current loop multiple	0xB60F	10%~600%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the current loop regulation coefficient during speed tracking. The higher the current, the quicker the tracking speed. But an excessively high setpoint may lead to oscillation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-16	Demagnetization time (valid for asynchronous motors)	0xB610	0.00s~5.00s	0.50s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the minimum waiting time for restart after shutdown.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-17	Over-excitation enable	0xB611	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: Activated when the motor is in the deceleration and power generation state 2: Activated when the motor is in the deceleration state and the bus voltage exceeds the overvoltage threshold							
	Description: When the energy generated during deceleration is too large, the energy generated can be partially consumed by switching on the over-excitation. 0: Disabled 1: Active when the motor is decelerating and generating 2: Active when the motor decelerates and the bus voltage pump rises above the threshold (the bus voltage threshold is the							

	value of overvoltage suppression threshold minus 100 V)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-18	Over-excitation suppression additional current value	0xB612	0%~200%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the current amplitude superimposed based on the original excitation current, which is a ratio to the rated motor current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-19	Over-excitation gain	0xB613	0.01~2.50	1.25	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Over-excitation function adjustment coefficient							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-25	Skip frequency 1	0xB619	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The frequency jump function enables the AC drive to avoid mechanical resonance point of the load. This parameter specifies the first jump frequency. If it is set to 0, the first frequency jump function is disabled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-26	Skip frequency 2	0xB61A	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The frequency jump function enables the AC drive to avoid mechanical resonance point of the load. This parameter defines the second jump frequency. If it is set to 0, the second jump frequency is canceled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

B6-27	Skip frequency 3	0xB61B	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The frequency jump function enables the AC drive to avoid mechanical resonance point of the load. This parameter defines the third jump frequency. If it is set to 0, the third jump frequency is canceled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-28	Skip frequency 4	0xB61C	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The frequency jump function enables the AC drive to avoid mechanical resonance point of the load. This parameter defines the fourth jump frequency. If it is set to 0, the fourth jump frequency is canceled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-29	Skip frequency band	0xB61D	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the running frequency approaches the jump frequency during acceleration, the AC drive runs at the current frequency for a period and then skips over the jump frequency. The jump range is twice the value of B6-29 (jump frequency amplitude). When the running frequency approaches the jump frequency during deceleration, the AC drive runs at the current frequency for a period and then skips over the jump frequency. The jump range is twice the value of B6-29.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-30	Source of frequency upper limit	0xB61E	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: B6-31 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication reference Others: F connector							
	Description:							

	0: B6-31 (Frequency upper limit) The frequency upper limit is set by B6-31. 1: AI1 The frequency upper limit is input by current or voltage signal through the AI1. The frequency is calculated according to the preset AI curve. 2: AI2 The frequency upper limit is input by current or voltage signal through the AI2. The frequency is calculated according to the preset AI curve. 3: AI3 The frequency upper limit is input by current or voltage signal through the AI3. The frequency is calculated according to the preset AI curve. 4: Pulse reference (DI5) The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the maximum frequency. 5: Communication The frequency upper limit is set through communication. Others: F connector The frequency upper limit is set through the connector. Read the connector value through setting the parameter No. of a float connector. The value being read is used as the frequency upper limit. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-31	Frequency upper limit	0xB61F	B6-33~F0-10	50.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the maximum operating frequency of motors.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-32	Frequency upper limit offset	0xB620	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the offset of the frequency upper limit. It is used to adjust the output frequency upon minimum frequency reference signal when the frequency is set by an external analog signal (voltage or current).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-33	Frequency lower limit	0xB621	0.00Hz~B6-31	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real

								time
	Description: Defines the minimum operating frequency of motors.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-34	Speed/Torque control mode	0xB622	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Speed control 1: Torque control							
	Description: Control target selection: Speed control and torque control 0: Speed control The AC drive controls the motor speed. 1: Torque control The AC drive controls the motor output torque and does not control the speed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-35	Motor overload protection	0xB623	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Used to select whether to enable the motor overload protection function. The drive judges whether the motor is overloaded according to the inverse time-lag curve. When the motor overload is detected, the AC drive will report an overload fault. 0: Disabled The motor overload protection function is disabled. When this parameter is set to 0, it is recommended to install a thermal relay before the motor for protection. 1: Enabled The motor overload protection function is enabled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-36	Motor overload	0xB624	0.20~10.00	1.00	Unsigned	Real time	General	Effective

	protection gain				16 bit	changes	user	in real time
	Description: The motor overload protection gain is calculated according to the percentage of time when the motor runs continuously at a certain overload point without reporting an overload fault. It is used to adjust the actual overload fault report time of the AC drive when motor overload occurs.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-37	Motor overload determine coefficient	0xB625	50%~100%	80%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The value of motor overload determine coefficient is calculated according to the percentage of time when the motor runs continuously at a certain overload point without reporting overload determine. This function is used to give a determine signal to the control system through DO before motor overload protection. This signal is used to determine how long in advance to send the determine signal before the motor overload protection is triggered. A larger coefficient means later transmission of the determine signal. When the accumulative output current of the AC drive is higher than the value of the overload time (value Y of motor overload protection inverse time-lag curve) multiplied by B6-37 (Motor overload determine coefficient), the multi-functional DO of the AC drive outputs a motor overload determine signal.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-38	V/f overvoltage stall suppression gain	0xB626	1~500	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing B6-38 improves the control effect of the bus voltage, but the output frequency will fluctuate. If the output frequency fluctuates greatly, reduce B6-38 appropriately. The function of B6-38 is the same as that of A3-24.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-39	V/f overvoltage stall suppression protection voltage	0xB627	330.0V~800.0V	770.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the bus voltage reaches the setpoint, the drive starts overvoltage stall protection. In this case, the function of B6-39 is the same as that of A3-22.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-40	Protection against input phase loss/contactor close T13 power supply unit fault protection	0xB628	Refer to "Value"	11	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Input phase loss protection	0: Disabled 1: Enabled when both software and hardware input phase loss conditions are met 2: Enabled when software input phase loss conditions are met 3: Enabled when hardware input phase loss conditions are met
Tens	Contactor close protection	0: Disabled 1: Enable
Hundreds	T13 power supply unit fault protection	0: Disable 1: Enable

Description:

This function parameter determines whether to perform input phase loss or contactor pickup protection through the ones and tens position.

After the input phase loss protection function is enabled, if the three-phase input power supply, driver board, lightning protection board, main control board, or rectifier bridge is abnormal, the AC drive will report E012.0 (input phase loss).

Ones: Input phase loss protection

0: Input phase loss inhibited

Input phase loss is not detected.

1: Protection triggered when software and hardware input phase loss conditions are met

Input phase loss protection is triggered only when the hardware and software detections meet the fault conditions.

2: Protection triggered when software input phase loss conditions are met

Input phase loss protection is triggered when software detection reaches the fault condition.

3: Protection triggered when hardware input phase

Tens: Contactor close protection selected for models of 450 kW and below; fan fault selected for models of 500 kW and above

0: Disable contactor close protection

1: Enable contactor close protection

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-41	Output phase loss protection	0xB629	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real

								time

Value:

Bit	Name	Value
Ones	Output phase loss protection upon power-on	0: Disabled 1: Enabled
Tens	Output phase loss protection before running	0: Disabled 1: Enabled

Description:

Ones: It determines whether to perform output phase loss protection. If protection is disabled but power output phase loss occurs, the AC drive does not detect the fault. At this moment, actual current is larger than the current displayed on the operating panel.

0: Disable

Output phase loss protection is disabled during operation.

1: Enable

Output phase loss protection is enabled during operation.

It takes about several seconds to detect output phase loss during operation. In low-frequency operations or applications where risks exist in start with phase loss, this function can be used to detect phase loss fault upon start. However, in applications where short start time is required, do not use this function.

0: Disable

The output phase loss protection is inhibited before operation.

1: Enable

The output phase loss protection is enabled before operation.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-42	Power dip ride-through	0xB62A	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: Disabled

1: Decelerate

2: Decelerate to stop

3: Suppress voltage dip

Description:

The function enables the AC drive to keep running upon an instantaneous power failure. When the system encounters a power failure, the AC drive makes the motor work in the generating state to keep the bus voltage around the "threshold for enabling power dip ride-through". This function prevents the AC drive from stopping due to input undervoltage.

0: Disabled

The power dip ride through function is disabled.

1: Decelerate, bus voltage constant control

	When power failure occurs, the bus voltage stays at a value around the "voltage threshold for enabling power dip ride-through". In this mode, when the grid voltage recovers, the AC drive restores the target output frequency based on the acceleration time. 2: Decelerate to stop When a power loss occurs, the AC drive decelerates to stop. In this mode, if the drive does not decelerate to 0 and the power supply recovers, the drive continues running. 3: Voltage dip suppression In this mode, the AC drive will not stop due to undervoltage caused by voltage dip. The voltage dip suppression time is set by B6-56.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-43	Voltage threshold for disabling power dip ride-through	0xB62B	80%~100%	85%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the voltage threshold for disabling power dip ride-through. 100% corresponds to 540 V. This value is slightly lower than the bus voltage before power loss. Upon power loss, the bus voltage is maintained at about B6-45 (threshold for enabling power dip ride-through). When the power supply recovers, the bus voltage rises from B6-45 (threshold for enabling power dip ride-through) to B6-43 (threshold for recovery from power dip ride-through). During this period, the output frequency of the AC drive keeps decreasing until the bus voltage reaches B6-43 (threshold for recovery from power dip ride-through).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-44	Delay of voltage recovery from power dip	0xB62C	0.0s~100.0s	0.5s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter is used to set the time required for the bus voltage to rise from B6-43 (threshold for recovering from power dip ride-through) to the voltage before power failure.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-45	Voltage threshold for enabling power dip ride-through	0xB62D	60%~100%	80%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter is used to set the voltage level at which the bus voltage is maintained upon power failure. When power loss occurs, the bus voltage is retained at a value around B6-45 (threshold for enabling power dip ride-through).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-46	Protection upon load loss	0xB62E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: If load loss protection is enabled, when output current of the AC drive falls below detection level (F9-64) for longer than time set in B6-48, the AC drive initiates load loss protection action (the action can be selected from F9-49 and the default is coast-to-stop.) Once the load recovers during protection, the drive will restore to run at the set frequency. 0: Invalid load loss protection detection is invalid. This detection will not be performed 1: Active Load loss protection detection is active.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-47	Load loss detection level	0xB62F	0.0%~100.0%	10.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: If load loss protection is enabled, when output current of the AC drive falls below detection level (B6-47) for longer than time set in B6-48, the AC drive initiates load loss protection action (the action can be selected from F9-49 and the default is coast-to-stop.) Once the load recovers during protection, the drive will restore to run at the set frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-48	Load loss detection time	0xB630	0.0s~60.0s	1.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: If load loss protection is enabled, when output current of the AC drive falls below detection level (B6-47) for longer than time set in B6-48, the AC drive initiates load loss protection action (the action can be selected from F9-49 and the default is coast-to-stop.) Once the load recovers during protection, the drive will restore to run at the set frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-49	Overspeed detection level	0xB631	0.0%~50.0%	20.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: During overspeed protection, when the detected motor speed exceeds F0-10 (Maximum frequency) for a percentage higher than B6-49 (Overspeed detection level) and for longer than the time set by B6-50 (Overspeed detection time), the AC drive reports a motor overspeed fault (E43.00) and acts as selected by F9-50 (Fault protection action). When B6-50 (Overspeed detection time) is set to 0.0s, the overspeed detection function is disabled. The overspeed protection is valid only in the FVC mode (A2-62 = 1).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-50	Overspeed detection time	0xB632	0.0s~60.0s	1.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: During overspeed protection, when the detected motor speed exceeds F0-10 (Maximum frequency) for a percentage higher than B6-49 (Overspeed detection level) and for longer than the time set by B6-50 (Overspeed detection time), the AC drive reports a motor overspeed fault (E43.00) and acts as selected by F9-50 (Fault protection action). When B6-50 (Overspeed detection time) is set to 0.0s, the overspeed detection function is disabled. The overspeed protection is valid only in the FVC mode (A2-62 = 1).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-51	Detection level of excessive speed deviation	0xB633	0.0%~50.0%	20.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed detected is higher than the set frequency and the difference is higher than B6-51 for a period longer than the time set by B6-52, the drive reports excessive speed deviation fault (E42.00) and acts accordingly as defined by F9-50. If B6-52 is set to 0.0s, the excessive speed deviation detection is disabled. The excessive speed error detection function is valid only when the FVC mode is selected for the AC drive (F0-01 = 1).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-52	Detection time of excessive speed	0xB634	0.0s~60.0s	5.0s	Unsigned 16 bit	Real time changes	General user	Effective in real

	deviation							time
	Description: When the motor speed detected is higher than the set frequency and the difference is higher than B6-51 for a period longer than the time set by B6-52, the drive reports excessive speed deviation fault (E42.00) and acts accordingly as defined by F9-50. If B6-52 is set to 0.0s, the excessive speed deviation detection is disabled. The excessive speed error detection function is valid only when the FVC mode is selected for the AC drive (F0-01 = 1).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-53	Power dip ride-through gain Kp	0xB635	1~100	40	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is valid only in the "decelerate, bus voltage constant control" (B6-42 is set to 1) mode. If undervoltage is likely to occur during power dip ride-through, increase the power dip ride-through gain and the power dip ride-through integral coefficient.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-54	Power dip ride-through integral coefficient Ki	0xB636	1~100	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is valid only in the "decelerate to stop" (B6-42 is set to 2) mode. If undervoltage is likely to occur during power dip ride-through, increase the power dip ride-through gain and the power dip ride-through integral coefficient.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-55	Deceleration time of power dip ride-through	0xB637	0.0s~300.0s	20.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is valid only in the "decelerate to stop" (B6-42 is set to 2) mode. When the bus voltage is lower than the value of B6-45, the AC drive decelerates to stop. The deceleration time is determined by this parameter instead of F0-18.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

B6-56	Voltage dip suppression time	0xB638	0.1s~600.0s	0.5s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This function prevents AC drive stop caused by undervoltage when instantaneous power failure occurs due to voltage dip. This parameter is valid only when B6-42 is set to 3.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-63	Active short circuit control	0xB63F	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Used to enable/disable the active short circuit control, which applies to synchronous motors to allow braking upon active short circuit control. 0: Disable Active short circuit control is not enabled. 1: Enable Active short circuit control is enabled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-64	Delay time for entering active short circuit control	0xB640	0.0ms~5000.0ms	0.0ms	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the delay time before active short circuit control applies.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-65	Holding time of active short circuit control at stop	0xB641	0.1s~3600.0s	10.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the hold time before active short circuit control applies. The max. setpoint indicates the active short circuit control is always active.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-66	Current hysteresis loop high point coefficient in active short circuit control	0xB642	0.0%~120.0%	80.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated drive current is used as the basis. The actual hysteresis loop high point current is the min. value among voltage regulation, the highest safety current, and the setting value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-67	Current hysteresis loop high/low point coefficient ratio in active short circuit control	0xB643	0.0%~99.9%	90.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the hysteresis loop width of the current in active short circuit control, which is lower than 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-68	Overvoltage threshold in active short circuit control	0xB644	330.0V~820.0V	780.0V	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The active short circuit control is turned off when this voltage hysteresis loop is exceeded.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-69	Voltage control point in active short circuit control	0xB645	330.0V~B6-68	750.0V	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the voltage control point during active short circuit control.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-70	Voltage control	0xB646	0.00Hz~100.00Hz	5.00Hz	Unsigned	Shutdown	General	Effective

	bandwidth in active short circuit control				16 bit	change	user	in real time
	Description: Defines the p value of voltage control. The PI input is the error voltage. The output is the high point of hysteresis loop current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-71	Voltage control time constant in active short circuit control	0xB647	0.001s~10.000s	0.500s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the i value controlled by voltage. The higher the setpoint, the lower the value of ki.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-72	DC injection braking current rise time	0xB648	0.00s~100.00s	0.00s	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the time for braking current to rise to the target current during DC braking.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B6-73	DC braking superposition frequency	0xB649	0.00Hz~100.00Hz	0.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used for start of synchronous motor without auto-tuning.							

B7 Nameplate and Auto-tuning Parameters (2) of Motor 2

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-00	Number of parallel motors	0xB700	1~200	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Description:
Used to set the number of paralleled motors.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-01	Motor information command word	0xB701	Refer to "Value"	0x3	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
bit0	Inductance curve	0: Disable 1: Enable
bit1	D/Q inductance curve	0: Disable 1: Enable
bit2	Online auto-tuning of rotor resistance	0: Disable 1: Enable
bit3	Online auto-tuning mode of rotor resistance	0: Amplitude 1: Phase
bit4	Motor thermal model	0: Disable 1: Enable
bit5	Motor thermal model temperature source	0: Estimated temperature 1: Temperature detected by the sensor
bit6	Calculation mode of asynchronous motor torque coefficient	0: Torque formula 1: Current distribution
bit7	Calculation mode of synchronous motor torque coefficient	0: Torque formula 1: Matching with rated values
bit8	Calculation mode of zero speed friction torque	0: Decreased to zero linearly 1: Keeping min. speed torque
bit9	Calculating model parameter based on nameplate parameters	0: Disable 1: Enable
bit10	Acknowledgment key for calculating model parameter based on nameplate parameters	0: Default 1: Acknowledgment key
bit12	Reluctance motor Lq curve	0: Dynamic auto-tuning results 1: Static auto-tuning results
bit13	Synchronous motor torque precision correction	0: Disable 1: Enable

Description:
bit0: Mutual inductance curve

	0: Disable 1: Enable bit1: D/Q inductance curve 0: Disable 1: Enable bit2: Online auto-tuning of rotor resistance 0: Disable 1: Enable bit3: Online auto-tuning mode of rotor resistance 0: Amplitude 1: Phase bit4: Motor thermal model 0: Disable 1: Enable bit5: Motor thermal model temperature source 0: Estimated temperature 1: Temperature detected by the sensor bit6: Calculation mode of asynchronous motor torque coefficient 0: Torque formula 1: Current distribution bit7: Calculation mode of synchronous motor torque coefficient 0: Torque formula 1: Matching with rated values bit8: Calculation mode of zero speed friction torque 0: Decreased to zero linearly 1: Keeping min. speed torque bit9: Calculating model parameter based on nameplate parameters 0: Disable 1: Enable bit10: Acknowledgment key for calculating model parameter based on nameplate parameters 0: Default 1: Acknowledgment key bit12: Reluctance motor Ld curve 0: Dynamic auto-tuning results 1: Static auto-tuning results bit13: Synchronous motor torque precision correction 0: Disable 1: Enable

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-02	Number of resolver pole pairs	0xB702	0~64	0	Unsigned 16 bit	Shutdown change	General user	Effective in real

								time
B7-03	Motor power factor	0xB703	0.600~1.000	0.860	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-05	Expansion card	0xB705	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 1: Expansion card 1 2: Expansion card 2							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-06	ABZ encoder speed measurement mode at low speed	0xB706	Refer to "Value"	2	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Maintain 1: Attenuate 2: Optimized solution							
	Description: In case of low speed without pulse, three speed measurement solutions are available. 0: Maintain The present speed is kept when there is no pulse, and after 4 ms elapses, current speed is deemed as zero. 1: Attenuate When there is no pulse, the speed attenuates based on 1/2, and after 4 ms elapses, the speed is deemed as zero. 2: Optimize The present speed is kept first and attenuated after a certain number of cycles. When the number of cycles without pulses reaches the zero cycle threshold, the speed is deemed to be zero.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-07	Encoder speed measurement filter time constant	0xB707	0.000s~10.000s	0.004s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

By adjusting the encoder speed measurement filter time constant, the filtering effect on the encoder signal can be changed. The higher the filter time, the smoother the encoder feedback speed, but the greater the feedback speed delay; the lower the filter time, the greater the encoder feedback speed fluctuation, but the smaller the feedback speed delay; under the FVC control mode, the filter time constant cannot be too low when the resolver and other encoder signal quality is not good.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-08	Encoder wire breakage software detection coefficient	0xB708	0.000~8.000	1.000	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

This parameter sets the size of the speed burrs when the speed is abnormal. The default is 100%. Generally, no change is required.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-09	Encoder control word	0xB709	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
bit0	Speed measurement	0: Disable 1: Enable
bit1	Software disconnection detection	0: Disable 1: Enable
bit2	Burr removal	0: Disable 1: Enable
bit3	ABZ speed measurement mode	0: Quadruple frequency 1: Single pulse
bit4	AB pulse setting mode	0: AB quadrature 1: A-pulse B-direction
bit5	A-pulse B-direction function selection 1	0: Falling edge counting of A 1: Rising edge counting of A
bit6	A-pulse B-direction function selection 2	0: B-direction being forward upon high level/reverse upon low level 1: B-direction being reverse upon high level/forward upon low level

Description:

Bit0: Speed measurement

	In FVC mode, speed measurement is enabled automatically. When other control modes apply where the speed needs to be measured, enable the speed measurement to turn on or off the encoder speed measurement. 0: Disable 1: Enable Bit1: Software disconnection detection The software disconnection detection is used to detect the encoder function during operation based on the encoder speed measurement results. The detection is not available in the shutdown state. Enabling the software disconnection detection will automatically enables the burr removal function. When the number of speed measurement errors is detected to be greater than A9-10, the encoder software disconnection fault will be reported. 0: Disable 1: Enable Bit2: Burr removal This function is used to remove the speed measurement burrs that occur occasionally. The magnitude of the burrs removed is restricted by B7-08. 0: Disable 1: Enable Bit3 to bit4: ABZ speed measurement mode 0: Quadruple frequency speed measurement mode is used throughout the process. 1: Quadruple frequency speed measurement mode is used during low-speed operation. Single pulse speed measurement mode is used during high-speed operation. 2: Single frequency speed measurement is used throughout the process. Bit5: A/B-pulse reference direction 0: AB quadrature, quadrature speed measurement performed based on the rising/falling edge of AB pulse 1: A-pulse B-direction, counting is performed by taking A signal as counting pulse and B signal as direction indication Bit6: A-pulse B-direction function selection 1 0: Counting applied upon falling edge of A 1: Counting applied upon rising edge of A Bit7: A-pulse B-direction function selection 2 0: When A-pulse edge is reached, UP counting applies upon high level of B/DOWN counting applies upon low level of B. 1: When A-pulse edge is reached, DOWN counting applies upon high level of B/UP counting applies upon low level of B.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-10	Speed measurement exception count threshold	0xB70A	1~100	10	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When encoder software disconnect detection is enabled, an encoder software disconnection fault is reported when the number of speed measurement errors detected is greater than B7-10.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

B7-11	Motor gear ratio (numerator)	0xB70B	1~65535	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the encoder and motor are not coaxially mounted, the control motor needs to set the gear ratio, which forms the gear ratio together with B7-12. If the motor-to-load deceleration ratio is 2.5 (2.5 revolutions of motor = 1 revolution of load), and the encoder is installed on the load, the numerator should be set to 5 and the denominator should be set to 2.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-12	Motor gear ratio (denominator)	0xB70C	1~65535	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the encoder and motor are not coaxially mounted, the control motor needs to set the gear ratio, which forms the gear ratio together with B7-11. If the motor-to-load deceleration ratio is 2.5 (2.5 revolutions of motor = 1 revolution of load), and the encoder is installed on the load, the numerator should be set to 5 and the denominator should be set to 2.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-13	External input source of encoder	0xB70D	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: When the speed comes from a communication reference or an AI terminal reference, the encoder type A2-28 is selected as an external source, and the parameter is set to a corresponding source. 0: Inactive 1: AI1 2: AI2 3: AI3 4: PULSE setting 5: Communication setting 6: Multi-speed reference 7: Motorized potentiometer 8: PID							

	Others: F connector							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-15	Stator leakage inductance	0xB70F	0.000mH~65.535mH	6.540mH	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Leakage inductance of asynchronous motor stator							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-16	Electromechanical time constant	0xB710	0.01s~655.35s	1.00s	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Defines the time for the motor to accelerate to the rated speed at no-load operation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-17	Inertia ratio	0xB711	0.0%~6553.5%	120.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the ratio of the actual motor inertia to the default system inertia, which can be auto-tuned by dynamic or inertia auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-18	Friction torque	0xB712	0.0%~6553.5%	2.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the motor friction torque, which can be auto-tuned.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-19	Excitation current point 1 of mutual	0xB713	5.0%~100.0%	50.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real

	inductance curve							time
	Description: Defines the excitation current point 1 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-20	Excitation current point 2 of mutual inductance curve	0xB714	5.0%~100.0%	75.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the excitation current point 2 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-21	Excitation current coefficient 3 of mutual inductance curve	0xB715	100.0%~800.0%	150.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the excitation current point 3 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-22	Excitation current coefficient 4 of mutual inductance curve	0xB716	100.0%~800.0%	210.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the excitation current point 4 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-23	Flux coefficient 1 of mutual inductance curve (rated)	0xB717	10.0%~100.0%	50.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the flux point 1 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
B7-24	Flux coefficient 2 of mutual inductance curve (rated)	0xB718	10.0%~100.0%	85.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the flux point 2 of mutual inductance curve of asynchronous motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-25	Flux coefficient 3 of mutual inductance curve	0xB719	100.0%~300.0%	115.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the flux point 3 of mutual inductance curve of asynchronous motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-26	Flux coefficient 4 of mutual inductance curve	0xB71A	100.0%~300.0%	125.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the flux point 4 of mutual inductance curve of asynchronous motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-27	Speed point 1 of friction curve	0xB71B	0rpm~30000rpm	15rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 1 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-28	Speed point 2 of friction curve	0xB71C	0rpm~30000rpm	30rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 2 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-29	Speed point 3 of friction curve	0xB71D	0rpm~30000rpm	60rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 3 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-30	Speed point 4 of friction curve	0xB71E	0rpm~30000rpm	120rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 4 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-31	Speed point 5 of friction curve	0xB71F	0rpm~30000rpm	150rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 5 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-32	Speed point 6 of friction curve	0xB720	0rpm~30000rpm	300rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 6 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-33	Speed point 7 of friction curve	0xB721	0rpm~30000rpm	600rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description:							

	Defines the corresponding speed point 7 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-34	Speed point 8 of friction curve	0xB722	0rpm~30000rpm	1200rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 8 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-35	Speed point 9 of friction curve	0xB723	0rpm~30000rpm	1500rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 9 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-36	Speed point 10 of friction curve	0xB724	0rpm~30000rpm	3000rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 10 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-37	Torque point 1 of friction curve	0xB725	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 1 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-38	Torque point 2 of friction curve	0xB726	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time

	Description: Defines the corresponding torque point 2 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-39	Torque point 3 of friction curve	0xB727	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 3 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-40	Torque point 4 of friction curve	0xB728	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 4 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-41	Torque point 5 of friction curve	0xB729	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 5 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-42	Torque point 6 of friction curve	0xB72A	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 6 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-43	Torque point 7 of friction curve	0xB72B	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real

								time
	Description: Defines the corresponding torque point 7 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-44	Torque point 8 of friction curve	0xB72C	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 8 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-45	Torque point 9 of friction curve	0xB72D	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 9 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-46	Torque point 10 of friction curve	0xB72E	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 10 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-47	Current coefficient starting point of D- and Q-axis inductance curve	0xB72F	-800.0%~+800.0%	-200.0%	Signed 16 bits	Shutdown change	Expert user	Effective in real time
B7-48	Current coefficient end point of D- and Q-axis inductance curve	0xB730	-800.0%~+800.0%	200.0%	Signed 16 bits	Shutdown change	Expert user	Effective in real time

B7-49	D axis inductance 1 of D- and Q-axis inductance curve	0xB731	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-50	D axis inductance 2 of D- and Q-axis inductance curve	0xB732	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 2.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-51	D axis inductance 3 of D- and Q-axis inductance curve	0xB733	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 3.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-52	D axis inductance 4 of D- and Q-axis inductance curve	0xB734	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 4.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-53	D axis inductance 5 of D- and Q-axis inductance curve	0xB735	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 5.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
B7-54	D axis inductance 6 of D- and Q-axis inductance curve	0xB736	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 6.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-55	D axis inductance 7 of D- and Q-axis inductance curve	0xB737	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 7.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-56	D axis inductance 8 of D- and Q-axis inductance curve	0xB738	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 8.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-57	D axis inductance 9 of D- and Q-axis inductance curve	0xB739	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 9.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-58	D axis inductance 10 of D- and Q-axis inductance curve	0xB73A	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 10.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-59	D axis inductance 11 of D- and Q-axis inductance curve	0xB73B	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 11.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-60	D axis inductance 12 of D- and Q-axis inductance curve	0xB73C	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 12.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-61	Q axis inductance 1 of D- and Q-axis inductance curve	0xB73D	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-62	Q axis inductance 2 of D- and Q-axis inductance curve	0xB73E	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 2.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-63	Q axis inductance 3 of D- and Q-axis inductance curve	0xB73F	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description:							

	Defines the Q-axis inductance curve point 3.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-64	Q axis inductance 4 of D- and Q-axis inductance curve	0xB740	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 4.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-65	Q axis inductance 5 of D- and Q-axis inductance curve	0xB741	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 5.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-66	Q axis inductance 6 of D- and Q-axis inductance curve	0xB742	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 6.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-67	Q axis inductance 7 of D- and Q-axis inductance curve	0xB743	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 7.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-68	Q axis inductance 8 of D- and Q-axis inductance curve	0xB744	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time

	Description: Defines the Q-axis inductance curve point 8.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-69	Q axis inductance 9 of D- and Q-axis inductance curve	0xB745	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 9.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-70	Q axis inductance 10 of D- and Q-axis inductance curve	0xB746	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 10.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-71	Q axis inductance 11 of D- and Q-axis inductance curve	0xB747	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 11.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B7-72	Q axis inductance 12 of D- and Q-axis inductance curve	0xB748	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 12.							

B8 Control & Protection & Vector Parameters (1) of Motor 2

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

<table>
<tr><th></th><th></th><th>address</th><th></th><th></th><th></th><th>mode</th><th>authority</th><th>mode</th></tr>
<tr><td rowspan="3">B8-00</td><td>Parameter auto-tuning upon startup</td><td>0xB800</td><td>Refer to "Value"</td><td>1</td><td>Unsigned 16 bit</td><td>Shutdown change</td><td>General user</td><td>Effective in real time</td></tr>
<tr><td colspan="8">Value：
<table>
<tr><th>Bit</th><th>Name</th><th>Value</th></tr>
<tr><td>bit 0</td><td>Auto-tuning of synchronous motor starting magnetic pole position</td><td>0: Disable
1: Enable</td></tr>
<tr><td>bit1</td><td>Starting quick auto-tuning of stator resistance</td><td>0: Disable
1: Enable</td></tr>
<tr><td>bit2</td><td>Auto-tuning of high-frequency injection magnetic pole position</td><td>0: Disable
1: Enable
2: Adaptive</td></tr>
<tr><td>bit4</td><td>Starting IGBT short circuit detection</td><td>0: Disable
1: Enable</td></tr>
<tr><td>bit5</td><td>Starting short circuit to ground detection (reserved)</td><td>0: Disable
1: Enable</td></tr>
<tr><td>bit6</td><td>Starting phase loss detection (reserved)</td><td>0: Disable
1: Enable</td></tr>
<tr><td>bit7</td><td>Pre-positioning before start of synchronous motor</td><td>0: Disable
1: Enable</td></tr>
</table></td></tr>
<tr><td colspan="8">Description：
Used to configure steps related to automatic inspection and auto-tuning before start of the motor.
Bit0: Auto-tuning of synchronous motor starting magnetic pole position
0: Disable
1: Enable
bit1: Starting quick auto-tuning of stator resistance
0: Disable
1: Enable
bit2: Auto-tuning of high-frequency injection magnetic pole position
0: Disable
1: Enable
2: Adaptive
bit4: Starting IGBT short circuit detection
0: Disable
1: Enable
bit5: Starting short circuit to ground detection (reserved)
0: Disable
1: Enable
bit6: Starting phase loss detection (reserved)</td></tr>
</table>

	0: Disable 1: Enable bit7: Pre-positioning before start of synchronous motor 0: Disable 1: Enable

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-01	Motor parameter auto-tuning direction	0xB801	0~1	1	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the direction of rotation for dynamic auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-02	Back EMF auto-tuning vibration suppression gain of synchronous motor	0xB802	0.0~30.0	3.2	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Used to suppress oscillation that occur during back EMF auto-tuning of synchronous motor. If oscillation occurs during back EMF auto-tuning, increase the setpoint properly.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-03	Target speed of rotation auto-tuning	0xB803	30.0%~100.0%	70.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Used to set the speed during auto-tuning of no-load current and mutual inductance curve of asynchronous motor. When the bus voltage is lower than 70% of the normal value or the motor is not allowed to operate at high speed, decrease this speed.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-04	Target speed 1 of inertia auto-tuning	0xB804	10.0%~B8-05	40.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description:							

	During inertia auto-tuning, the motor may accelerate/decelerate repeatedly between this speed and B8-05 to auto-tune the inertia.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-05	Target speed 2 of inertia auto-tuning	0xB805	B8-04~100.0%	60.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: During inertia auto-tuning, the motor may accelerate/decelerate repeatedly between this speed and B8-04 to auto-tune the inertia.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-06	Overcurrent prevention of mutual inductance saturation curve	0xB806	0~1	1	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: If the mutual inductance curve of the asynchronous motor is over-saturated, this parameter can be used to prevent overcurrent during voltage rise.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-07	Motor parameter auto-tuning item configuration	0xB807	Refer to "Value"	125	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
bit0	Adaptive speed loop parameters	0: Disable 1: Enable
bit1	Adaptive current loop parameters	0: Disable 1: Enable
bit2	Non-linear auto-tuning of the drive	0: Disable 1: Enable
bit3	Phase-to-phase deviation coefficient auto-tuning	0: Disable 1: Enable
bit4	Auto-tuning of initial magnetic pole position	0: Disable 1: Enable

bit5	Auto-tuning of synchronous motor D/Q-axis inductance model	0: Disable 1: Enable
bit6	Auto-tuning of system moment of inertia	0: Disable 1: Enable
bit7	Auto-tuning of High-frequency injection magnetic pole position	0: Disable 1: Enable
bit8	Auto-tuning of DC injection	0: Disable 1: Enable
bit9	Auto-tuning of no-load current vector	0: Disable 1: Enable
bit10	Speed source of no-load current vector auto-tuning	0: Set by the user 1: Set internally
bit11	Back EMF calculation	0: Disable 1: Enable
bit12	Back EMF auto-tuning calculation mode	0: Mode 0 1: Mode 1

Description:

If some auto-tuning fails due to specific reasons, you can turn off the corresponding step can proceed with subsequent auto-tuning steps.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-08	OFF3 stop mode	0xB808	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: Quick stop

1: Stop at maximum capability

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-09	Stop mode during running	0xB809	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: OFF1 stop mode

1: OFF2 stop mode

2: OFF3 stop mode

	Description： Mode of stop during running 0: Stop at OFF1 The stop mode is defined by OFF1 stop command. 1: Stop at OFF2 The stop mode is defined by OFF2 stop command. 2: Stop at OFF3 The stop mode is defined by OFF3 stop command.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-10	Stop mode for torque control	0xB80A	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value： 0： Coast to stop forcibly 1： Switch to speed control mode and then stop 2： Maintain torque control mode until zero speed and then block							
	Description： Defines the stop mode in the torque mode. The setpoint 0 indicates the output is blocked directly and the motor coasts to stop. The setpoint 1 indicates the drive decelerates to stop after switching to the speed mode. The setpoint 2 indicates the torque mode still applies and the output will be blocked when the motor speed decelerates to 0 rpm due to the load. 0: Coast to stop forcibly 1: Switch to the speed mode to stop 2: Keep the torque mode to zero speed and then block it							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-11	MTPA filter time	0xB80B	0~8000	20	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： Defines the Id filter time set by the synchronous motor MTPA. The lower the setpoint, the faster the MTPA response. Note that an excessively low setpoint may lead to torque oscillation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-12	Proportional gain adjustment coefficient	0xB80C	0.1~2.0	1.0	Unsigned 16 bit	Real time changes	General user	Effective in real time

	Description: Increasing the setpoint improves the dynamic responsiveness and current tracking performance during DC braking. An excessively high setpoint may lead to motor oscillation.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-13	Integral gain adjustment coefficient	0xB80D	0.1~2.0	1.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing the setpoint improves the dynamic responsiveness and current tracking performance during DC braking. An excessively high setpoint may lead to motor oscillation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-14	Zero-speed threshold	0xB80E	0.1%~200.0%	2.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the threshold for motor zero speed during decelerate-to-stop. An excessively low setpoint may cause the motor stop failure when the motor speed is near zero but exceeds this threshold. An excessively high setpoint may cause the motor to rotate when the drive output has been blocked. Set this parameter based on the actual stop performance.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-15	Zero-speed stop delay	0xB80F	0.00s~10.00s	0.10s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The drive blocks output when the motor actual speed keeps lower than the zero speed threshold during deceleration to stop after the period defined by this parameter elapses.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-16	Setting channel execution interval	0xB810	0~20	4	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
B8-17	Trial current for speed tracking of synchronous motor	0xB811	5.0%~50.0%	10.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time

	Description: Defines the current during speed tracking of synchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-18	Minimum frequency for speed tracking of synchronous motor	0xB812	0.0Hz~100.0Hz	0.0Hz	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: When the frequency is lower than this setpoint, the motor is at zero speed and starts directly.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-19	Angle compensation for speed tracking of synchronous motor	0xB813	0~360	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Used to reduce the current surge after speed tracking.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-20	Parameter auto-tuning of synchronous motor upon startup	0xB814	0~1	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to apply quick magnetic pole auto-tuning during initial power-on.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-21	Current motor angle	0xB815	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
B8-22	Forward torque limit 1	0xB816	0.0%~400.0%	150.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Digital setting of positive torque limit							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
B8-23	Reverse torque limit 1	0xB817	0.0%~400.0%	150.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Digital setting of negative torque limit							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-24	Source of forward torque limit 2	0xB818	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: 400% 0: F-connector							
	Description: Defines the positive torque limit. The minimum between this value and B8-22 is used as the final value. 0: 400% Others: F connector							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-25	Source of reverse torque limit 2	0xB819	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: –400% 0: F-connector							
	Description: Defines the negative torque limit. The minimum between this value and B8-23 is used as the final value. 0: -400% Others: F connector							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-26	Ramp (FRG) selection bit 0	0xB81A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: 0	7: DI5	14: DI12
1: 1	8: DI6	15: DI13
2: Terminal function input	9: DI7	16: DI14
3: DI1	10: DI8	17: DI15
4: DI2	11: DI9	18: DI16
5: DI3	12: DI10	0: B-connector
6: DI4	13: DI11	

Description:

Four groups of acceleration/deceleration time are available, which can be switched by the four states of bit0 and bit1 values of the ramp (RFG). The acceleration time indicates the time required by the AC drive to accelerate from 0 Hz to the acceleration/deceleration base frequency (F0-25). The deceleration time indicates the time required by the AC drive to decelerate from the acceleration/deceleration base frequency (F0-25) to 0 Hz.

0: Inactive

1: Active

2: Terminal function input

3~18: Select the ramp (RFG) through high/low level of DI for DI1 to DI16.

Others: B connector

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-27	Ramp (FRG) selection bit 1	0xB81B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: 0	7: DI5	14: DI12
1: 1	8: DI6	15: DI13
2: Terminal function input	9: DI7	16: DI14
3: DI1	10: DI8	17: DI15
4: DI2	11: DI9	18: DI16
5: DI3	12: DI10	0: B-connector
6: DI4	13: DI11	

Description:

Four groups of acceleration/deceleration time are available, which can be switched by the four states of bit0 and bit1 values of the ramp (RFG). The acceleration time indicates the time required by the AC drive to accelerate from 0 Hz to the acceleration/deceleration base frequency (F0-25). The deceleration time indicates the time required by the AC drive to decelerate from the acceleration/deceleration base frequency (F0-25) to 0 Hz.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

B8-30	Motor protection	0xB81E	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name
bit0	Motor overload judgment (reserved)
bit1	Motor overtemperature detection (reserved)
bit2	PG fault detection (reserved)
bit3	Current control error detection
bit4	Motor step loss error detection
bit5	Motor stall detection
bit6	Synchronous motor demagnetization protection
bit7	SVC speed open-loop stall protection (reserved)
bit8	Reserved
bit9	Parameter setting error
bit10	Output load loss detection (reserved)
bit11	Runaway protection
bit12	Speed deviation too large (reserved)
bit13	Speed reversal protection (reserved)
bit14	Overspeed protection (reserved)

Description:

Protective function switch of the motor

Bit0: Motor overload judgment (reserved)

Bit1: Motor overtemperature detection (reserved)

Bit2: PG fault detection (reserved)

bit3: Current control error detection

bit4: Motor step loss error detection

bit5: Motor stall detection

bit6: Synchronous motor demagnetization protection

bit7: SVC speed open-loop stall protection (reserved)

bit8: Reserved

bit9: Parameter setting error

bit10: Output load loss detection (reserved)

bit11: Runaway protection

bit12: Speed deviation too large (reserved)

bit13: Speed reversal protection (reserved)

bit14: Overspeed protection (reserved)

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
B8-31	Motor stall time	0xB81F	0.0s~65.0s	2.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed setpoint exceeds the fault frequency, the torque reaches the limit state, and the fault time is exceeded, a fault indicating the motor is stalled will be reported.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-32	Motor stall frequency	0xB820	0.0%~600.0%	6.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed setpoint exceeds the fault frequency, the torque reaches the limit state, and the fault time is exceeded, a fault indicating the motor is stalled will be reported.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-33	Motor stall detection time	0xB821	0.0s~10.0s	0.5s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the feedback flux of asynchronous motor flux controller and the set flux exceed the detection threshold and reach the set time, a step loss fault will be reported.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-34	Stall detection threshold	0xB822	0.0%~100.0%	30.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the feedback flux of asynchronous motor flux controller and the set flux exceed the detection threshold and reach the set time, a step loss fault will be reported.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-35	Current control exception detection	0xB823	0.00s~1.00s	0.05s	Unsigned 16 bit	Real time changes	General user	Effective in real

	time							time
	Description: Used to judge whether the motor feedback current follows the set deviation threshold. If the error exceeds the threshold and reaches the set time, a fault will be reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-36	Current control exception detection threshold	0xB824	0.0%~200.0%	25.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to judge whether the motor feedback current follows the set deviation threshold. If the error exceeds the threshold and reaches the set time, a fault will be reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-37	Synchronous motor overcurrent threshold	0xB825	0.0%~500.0%	300.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: A fault will be reported when the phase current of the motor exceeds the threshold (based on the rated motor current).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-39	Speed deviation detection	0xB827	0~1	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to judge whether the motor feedback speed follows the setting. If the deviation keeps exceeding the threshold (F9-69) after the time defined by F9-70 elapses, a fault will be reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-40	Asynchronous motor FVC model switchover frequency	0xB828	0%~1000%	20%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
B8-41	Asynchronous motor FVC model switchover hysteresis frequency	0xB829	10%~50%	20%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time

B8-42	Asynchronous motor FVC observer filter time	0xB82A	5ms~100ms	15ms	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
B8-43	Asynchronous motor FVC current model mode	0xB82B	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
B8-44	Asynchronous motor FVC pre-excitation output observation angle mode	0xB82C	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-45	Asynchronous motor SVC model switchover frequency	0xB82D	10%~20%	15%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
B8-46	Defines the DC starting frequency of asynchronous motor in SVC mode.	0xB82E	0.1%~20.0%	0.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-47	Asynchronous motor SVC observer gain 1	0xB82F	10%~500%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-48	Asynchronous motor SVC observer gain 2	0xB830	10%~100%	20%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-49	Asynchronous motor SVC observer mode	0xB831	0~3	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-50	Asynchronous motor SVC pre-excitation mode	0xB832	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
B8-51	Asynchronous motor SVC speed tracking mode	0xB833	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time

B8-52	Defines the asynchronous motor high-speed model gain.	0xB834	0.0~3.0	0.5	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-54	Synchronous motor 1 model control	0xB836	Refer to "Value"	5	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

Bit	Name
bit0	Low speed processing
bit1	Low speed processing 1
bit2	Online auto-tuning of resistance
bit3	Online auto-tuning of back EMF
bit4	KS

Description:
Synchronous motor 1 model control
bit0: Low-speed processing
bit1: Low-speed processing 1
bit2: Online auto-tuning of resistance
bit3: Online auto-tuning of back EMF
bit4: KS

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-55	Synchronous motor model K1	0xB837	10Hz~3000Hz	200Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-56	Synchronous motor model K1Max	0xB838	100%~6000%	3000%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-57	Synchronous motor model KsMin	0xB839	0.0~4.0	0.3	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-58	Synchronous motor model Kspeed	0xB83A	50Hz~2000Hz	400Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real

								time
B8-59	Synchronous motor frequency filter time constant	0xB83B	2ms~100ms	10ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-60	Frequency upper limit of synchronous motor Rs online auto-tuning	0xB83C	1.0%~20.0%	3.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-61	Synchronous motor model Kr	0xB83D	0~50	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-62	Synchronous motor model Kr1	0xB83E	0%~50%	5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-63	Synchronous motor low-speed D axis injection current	0xB83F	0%~100%	20%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-64	Synchronous motor model LowFreqTime1	0xB840	0~500	50	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-67	Frequency lower limit of back EMF online auto-tuning	0xB843	10%~100%	25%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-68	Synchronous motor model LowFreq	0xB844	0.0%~2.0%	0.3%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-69	Synchronous motor model LowFreqTime	0xB845	0~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-70	Percentage of pole auto-tuning current	0xB846	50%~200%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: Defines the target current of magnetic pole position auto-tuning of synchronous motor. If the magnetic pole position auto-tuning noise is too large, reduce this current. Note that excessively low current may cause magnetic pole position auto-tuning fault.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-71	Percentage of high frequency response current	0xB847	0%~100%	25%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-72	Percentage of HFI and SVC switching frequency	0xB848	0%~30%	10%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-73	Observer parameter	0xB849	10~200	100	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-74	Speed filter cut-off frequency	0xB84A	1Hz~200Hz	10Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-75	Carrier frequency during NS auto-tuning	0xB84B	2.00Hz~16.00Hz	8.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-76	Automatic calculation of NS auto-tuning voltage	0xB84C	0~1	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-77	Percentage of NS auto-tuning voltage set manually	0xB84D	0%~100%	10%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
B8-78	Duration of HFI stage 1	0xB84E	50ms~500ms	150ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-80	Speed loop command	0xB850	Refer to "Value"	19	Unsigned	Real time	General	Effective in real

	word				16 bit	changes	user	time

Value:

Bit	Name	Value
bit0	Speed loop	0: Disabled 1: Enabled
bit1	Integration mode	0: Conventional integration 1: Position integration
bit2	Acceleration torque	0: Disabled 1: Enabled
bit3	Acceleration source	0: Function transfer torque 1: Automatic calculation 2: Function transfer acceleration
bit5	Anti-load disturbance	0: Disabled 1: Enabled

Description:

Speed loop command word

Bit0: The speed loop can be switched off through this parameter in specific process applications.

0: Disable

1: Enable

Bit1: Speed loop integral mode selection

0: Traditional integral

1: Position-type integral

Bit2: Acceleration feedforward enable switch, which can be used to improve speed following performance when speed reference changes

0: Disable

1: Enable

Bit3: Acceleration feedforward torque source (0: Torque reference superimposed with the torque transmitted by B8-85; 1: Torque needed by acceleration calculated automatically through speed reference change and inertia; 2: Torque needed by acceleration calculated automatically through the acceleration transmitted by B9-00 and motor inertia)

0: Torque superposition

1: Automatic calculation

2: Acceleration superposition

Bit5: Cancel the impact on the motor speed during sudden load change to improve dynamic speed performance

0: Disable

1: Enable

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-81	Motor stall fast integral cancel coefficient	0xB851	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real

								time
	Description: When motor is stalled, output is still generated in the integral term of speed loop after the speed reference changes from zero to non-zero and back to zero again, leading to continuous torque output during zero speed reference. When this coefficient is a non-zero value, the speed loop integral term output will be decreased until this target value is reached.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-82	Integral torque	0xB852	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Defines the forced value of integral term in speed loop forced integral mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-83	Speed controller frequency window size	0xB853	0.00Hz~10.00Hz	0.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: In the master-slave mode, when this drive is used as a slave in the torque mode, this frequency window is active.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-84	Current filter time for torque reference	0xB854	0.0ms~100.0ms	0.0ms	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the filter time when the speed loop outputs the set torque current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-85	Acceleration torque	0xB855	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							

	3： AI3
	Description： When the acceleration feedforward torque source is set to 0, this parameter is used to set the acceleration torque.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-87	Reference model bandwidth	0xB857	0.00Hz~300.00Hz	0.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： Used to set the speed filter time upon acceleration feedforward.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-88	Torque feedforward coefficient	0xB858	0.0%~6553.5%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： This parameter is used to adjust the feedforward torque. With the acceleration feedforward enabled, if the feedback speed does not follow the reference during acceleration, increase this parameter value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-89	Vector control reference frequency filter time	0xB859	0.0ms~100.0ms	0.0ms	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
B8-90	Vector control feedback frequency filter time	0xB85A	0.0ms~100.0ms	0.0ms	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
B8-91	Load observation bandwidth	0xB85B	0.00Hz~300.00Hz	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Used to set the load observer bandwidth.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-92	Load observation	0xB85C	0.0%~1000.0%	100.0%	Unsigned	Real time	General	Effective

	coefficient				16 bit	changes	user	in real time
	Description: Used to adjust the load observer torque of compensation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-93	Pseudo integral coefficient	0xB85D	0.000~10.000	1.000	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust PDFF intensity.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-94	Torque coefficient enable	0xB85E	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: When the torque coefficient is enabled, the actual flux is taken into account during calculating torque output, which is the actual torque. When the torque coefficient is not enabled, the displayed output torque and torque current is calculated based on 1:1, without torque coefficient conversion.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-95	Low-frequency Kp switchover selection	0xB85F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: 1 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector Note: When 3-18DI is used for							

	switchover selection, the DI high level is active and low-frequency Kp switchover will be performed.
	Description: When enabled, the proportional term of the speed loop is modified by AA-53. 0: 0 1: 1 2: Terminal function input 3~18: DI1 to DI16 controlled by high/low level of DI terminals Others: B connector

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-96	Center frequency of notch filter 1	0xB860	0.0~4000.0	4000.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the torque current notch. When it is set to a non-zero value, the notch 1 is activated.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-97	Center frequency of notch filter 2	0xB861	0.0~4000.0	4000.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the torque current notch. When it is set to a non-zero value, the notch 2 is activated.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-98	Integral setting control word	0xB862	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled 0: B-connector							
	Description: After enabled, the integral term of speed loop is set by the channel in B8-99 forcibly. 0: Inactive							

	1: Set Others: B connector

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B8-99	Integral reference source	0xB863	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: Digital setting
1: AI1
2: AI2
3: AI3
4: Pulse reference
5: Communication
6: Multi-reference
7: Motor-driven potentiometer
8: PID
0: F-connector

Description:

Forced value source of speed loop integral term

0: Digital setting

B8-82 used as the source

1: AI1

The frequency reference is input by current or voltage signal through the AI1. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4.

2: AI2

The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4.

3: AI3

The frequency reference is input by voltage signal through AI3. The frequency is calculated according to the AI curve. AI curves can be set in parameter group F4.

4: Pulse reference (DI5)

The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency (F4-28 to F4-31).

5: Communication

The main frequency is set through communication. This mode is applicable to applications requiring remote control or centralized control of multiple devices. In this mode, you can input the frequency through remote communication. In this case, the AC drive must be installed with a communication card for communicating with the host controller.

The communication address is 0x1000, indicating the percentage reference. The value ranges from -10000 to 10000. 0 represents 0%, 10000 represents 100%, and -10000 represents -100%.

Note: Communication settings are generally used to write the frequency. It is recommended to select a connector for other parameter source selection.

6: Multi-reference

In the multi-reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals (assigned with functions 12 to 15) can provide 16 states, corresponding to 16 frequencies (set by FC-00 to FC-15).

	7: Motorized potentiometer The real-time target speed is set by the motorized potentiometer module output. 8: PID PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control. Set PID-related parameters in group FA. Others: F connector A parameter No. is set for a float connector, and the value of the connector is read as the auxiliary frequency reference. It is used for extension of common sources.

B9 Vector Control Parameters (2) of Motor 2

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-00	Externally transferred acceleration	0xB900	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: When set to a value other than 0, this parameter is used to set the acceleration. 0: Inactive 1: AI1 The frequency is input by voltage signal through the AI1. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4. 2: AI2 The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4. 3: AI3 The frequency reference is input by voltage signal through AI3. The frequency is calculated according to the AI curve. AI curves can be set in parameter group F4. 4: Pulse reference (DI5) The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency (F4-28 to F4-31).							

	5: Communication The main frequency is set through communication. This mode is applicable to applications requiring remote control or centralized control of multiple devices. In this mode, you can input the frequency through remote communication. In this case, the AC drive must be installed with a communication card for communicating with the host controller. The communication address is 0x1000, indicating the percentage reference. The value ranges from -10000 to 10000. 0 represents 0%, 10000 represents 100%, and -10000 represents -100%. Note: Communication settings are generally used to write the frequency. It is recommended to select a connector for other parameter source selection. 6: Multi-reference In the multi-reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals (assigned with functions 12 to 15) can provide 16 states, corresponding to 16 frequencies (set by FC-00 to FC-15). 7: Motorized potentiometer The real-time target speed is set by the motorized potentiometer module output. 8: PID PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control. Set PID-related parameters in group FA. Others: F connector A parameter No. is set for a float connector, and the value of the connector is read as the auxiliary frequency reference. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-01	Current deviation threshold	0xB901	0.3~2.0	0.5	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: This parameter is active only in ImCsr2 mode. When the feedback excitation current exceeds the set excitation current plus the threshold, the low-speed loop gain will no longer be zero.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-02	Current filter cycle setting	0xB902	0~100	1	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Used to set the filter time set for the current loop, which is a multiplier relative to the execution time.							

Param	Name	Communication	Range	Default	Data	Change	User	Effective

		address			type	mode	authority	mode
B9-03	Overturning torque limiting coefficient	0xB903	0.0%~400.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust the motor torque limit. An excessively high setpoint may cause the motor to operate in the breakdown torque area, which means low torque output at high current. An excessively low setpoint may compromise the max. torque output capacity of the motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-04	Motoring power limiting coefficient	0xB904	0.0%~400.0%	400.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
B9-05	Generating power limiting coefficient	0xB905	0.0%~400.0%	400.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
B9-06	Overspeed limiting enable	0xB906	0~1	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to activate the overspeed controller in torque mode. 0: Inactive 1: Active							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-07	Sine wave frequency of bandwidth test	0xB907	0Hz~1000Hz	0Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When testing the bandwidth in the speed loop ,the set speed is superimposed with the sine signal frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-08	Sine wave amplitude of bandwidth test	0xB908	0%~100%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: When testing the bandwidth in the speed loop, the set speed is superimposed with the sine signal amplitude.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-09	Bandwidth test enable	0xB909	0~4	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When testing the bandwidth in the speed loop, the set speed is superimposed with the sine reference.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-10	Torque coefficient adjustment value	0xB90A	0.0%~200.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to correct the coefficient of reluctance torque term of permanent magnet synchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-11	Speed loop parameter calculation mode	0xB90B	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: New solution 1: Compatible solution							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-12	Speed loop proportional gain in FVC mode	0xB90C	0.00Hz~100.00Hz	8.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop proportional gain in FVC mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-13	Speed loop integral time in	0xB90D	0.000s~20.000s	0.080s	Unsigned	Real time	General	Effective

	FVC mode				16 bit	changes	user	in real time
	Description: Defines the speed loop integral time in FVC mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-14	Speed loop proportional gain in SVC mode	0xB90E	0.00Hz~100.00Hz	5.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop proportional gain in SVC mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-15	Speed loop integral time in SVC mode	0xB90F	0.000s~20.000s	0.127s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop integral time in FVC mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-16	Low frequency proportional correction coefficient	0xB910	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Activated when B9-11 is set to 0. When the speed is lower than A2-40, the speed loop parameter is adjusted through this parameter.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-17	Low frequency integral correction coefficient	0xB911	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Activated when B9-11 is set to 0. When the speed is lower than A2-40, the speed loop parameter is adjusted through this parameter.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-18	Speed loop adaption factor	0xB912	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: Inactive
1: AI1
2: AI2
3: AI3
4: PULSE setting
5: Communication setting
6: Multi-speed reference
7: Motorized potentiometer
8: PID
0: F connector

Description:

When the speed loop adaptive factor is not 0, the speed loop adaptive factor is set through this channel.

0: Inactive

1: AI1

The frequency is input by voltage signal through the AI1. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4.

2: AI2

The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4.

3: AI3

The frequency reference is input by voltage signal through AI3. The frequency is calculated according to the AI curve. AI curves can be set in parameter group F4.

4: Pulse reference (DI5)

The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency (F4-28 to F4-31).

5: Communication

The main frequency is set through communication. This mode is applicable to applications requiring remote control or centralized control of multiple devices. In this mode, you can input the frequency through remote communication. In this case, the AC drive must be installed with a communication card for communicating with the host controller.

The communication address is 0x1000, indicating the percentage reference. The value ranges from -10000 to 10000. 0 represents 0%, 10000 represents 100%, and -10000 represents -100%.

Note: Communication settings are generally used to write the frequency. It is recommended to select a connector for other parameter source selection.

6: Multi-reference

In the multi-reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals (assigned with functions 12 to 15) can provide 16 states, corresponding to 16 frequencies (set by FC-00 to FC-15).

7: Motorized potentiometer

The real-time target speed is set by the motorized potentiometer module output.

8: PID

PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in

	which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control. Set PID-related parameters in group FA. Others: F connector A parameter No. is set for a float connector, and the value of the connector is read as the auxiliary frequency reference. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-19	Speed loop adaption switchover lower limit	0xB913	0.000~10.000	0.400	Unsigned 16 bit	Real time changes	General user	Effective in real time
B9-20	Speed loop adaption switchover upper limit	0xB914	0.000~10.000	1.000	Unsigned 16 bit	Real time changes	General user	Effective in real time
B9-21	Speed loop adaption correction upper limit	0xB915	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the upper limit of speed loop adaptive correction.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-22	Speed loop adaption correction lower limit	0xB916	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the lower limit of speed loop adaptive correction.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-23	Flux adaptation enable	0xB917	0~1	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When this function is enabled, the speed loop parameter decreases with the flux reduction in the field weakening range, which prevents speed loop oscillation in the field weakening range.							

Param	Name	Communication	Range	Default	Data	Change	User	Effective

		address			type	mode	authority	mode
B9-24	Overspeed controller correction coefficient	0xB918	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the adjustment value of torque reference when the speed limit is exceeded in the torque mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-25	Vector overvoltage/undervoltage suppression control command word	0xB919	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
bit0	Under voltage suppression	0: Disable 1: Enable
bit1	Overvoltage suppression	0: Disable 1: Enable
bit2	Automatic calculation of overvoltage/Under voltage suppression threshold	0: Disable 1: Enable
bit3	Overvoltage/Under voltage suppression integral action	0: Disable 1: Enable

Description:

The command word takes effect in vector control mode.

Bit0: Undervoltage suppression

Bit1: Overvoltage suppression

Bit2: Automatic calculation of overvoltage/undervoltage suppression threshold (In automatic calculation mode, the overvoltage suppression threshold is overvoltage threshold minus 70 V, the undervoltage suppression threshold is undervoltage threshold plus 50 V.)

Bit3: Overvoltage/Undervoltage suppression integral action

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-26	Bus capacitance ratio	0xB91A	50.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust the overvoltage/undervoltage suppression PI parameter in the vector mode. Set this parameter based on the							

	number of drives that share the same common bus in actual application.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-27	Vector undervoltage suppression exit from hysteresis frequency	0xB91B	0.00Hz~10.00Hz	3.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When the operating frequency is higher than the minimum frequency plus this frequency, the undervoltage suppression state applies.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-28	Speed threshold for vector undervoltage suppression failure	0xB91C	0.00Hz~20.00Hz	2.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When vector undervoltage suppression reaches this frequency, the undervoltage suppression state will be canceled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-29	Dynamic adjustment coefficient of vector overvoltage/undervoltage suppression	0xB91D	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the proportional coefficient adjustment term of overvoltage/undervoltage suppression.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-30	Activation voltage of vector undervoltage suppression	0xB91E	320.0V~540.0V	430.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
B9-31	Activation voltage of vector overvoltage suppression	0xB91F	650.0V~800.0V	770.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

B9-32	Flux linkage control command word	0xB920	Refer to "Value"	18741	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
bit0	Output voltage limit calculation filter mode	0: Symmetric filter 1: Asymmetric filter
bit1	Inverse ratio curve calculation mode of asynchronous motor	0: Inverse ratio synchronous frequency reduced 1: Inverse ratio speed reduced
bit2	Linkage feedforward of inverse ratio speed calculation	0: Disable 1: Enable
bit3	Reserved	
bit4	Reserved	
bit5	Field weakening through adjustment	0: Disable 1: Field weakening through adjustment
bit6	Linkage derivative feedforward	0: Disable 1: Enable
bit7	Energy-saving control	0: Disable 1: Enable
bit8	Flux closed-loop of asynchronous motor	0: Disable 1: Enable
bit9	Reserved	
bit10	Reserved	
bit11	Asynchronous motor pre-excitation mode selection	0: Pre-excitation based on time
bit12	Pre-excitation current of asynchronous motor	0: Pre-excitation based on the set current 1: Pre-excitation current being the max. current allowed by the platform
bit13	Reserved	
bit14	Voltage outer loop mode	0: Voltage outer loop mode 0 1: Voltage outer loop mode 1

Description:

Bit00: Output voltage limit calculation filter mode

0 corresponds to first-order filter. 1 corresponds to bus voltage rise filter.

Bit01: Inverse ratio curve calculation mode of asynchronous motor

To prevent saturation of field weakening range, select 1 to lower the turnover frequency. The setting is active when bit2 is set to 1.

Bit02: Inverse ratio speed calculation linkage feedforward

When bit02 is set to 1, the inverse ratio speed reduces when the output frequency exceeds the turnover frequency, thus

	improve the dynamic responsiveness during acceleration. Bit05: Field weakening through adjustment When bit05 is set to 1, the voltage outer loop adjustment is active. Bit07: Energy-saving control When the asynchronous motor is active, bit07 can be used to reduce the copper loss at light load during vector control. Bit11: Pre-excitation mode of asynchronous motor 0: Pre-excitation done within the set time 1: Fixed current outputted during pre-excitation, exit when linkage reaching the setpoint Bit12: Asynchronous motor pre-excitation current 0: Pre-excitation based on the current defined by AB-51 1: Pre-excitation based on the maximum current allowed by the drive, the pre-excitation time can be reduced Bit14: Voltage outer loop mode 0: Synchronous motor mode 1: Asynchronous motor mode

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-33	Voltage margin	0xB921	1%~50%	3%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Decreasing the setpoint can improve voltage utilization. The current is smaller under the same load in the field weakening region. However, an excessively small setpoint will affect dynamic performance.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-34	Output voltage upper limit margin for auto adjustment of field weakening	0xB922	1%~20%	3%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When A2-56 is set to 2, changing the setpoint affects the voltage margin, which is similar to B9-33.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-35	Filter time for calculating maximum output voltage	0xB923	0ms~3000ms	10ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Increasing the filter time allows the maximum output voltage to change slowly but affects voltage utilization.							

Param	Name	Communication	Range	Default	Data	Change	User	Effective

		address			type	mode	authority	mode
B9-36	Rated flux adjustment coefficient for calculation	0xB924	0.1~2.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: You can decrease the value of this parameter if under excitation is required, or increase it if over-excitation is required.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-37	Field weakening frequency adjustment coefficient for calculation	0xB925	0.8~1.2	1.1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust the conversion frequency calculated automatically by the AC drive. After the flux linkage feedforward is enabled, decreasing this value makes the drive enter the field weakening state in advance. This function is applicable to applications requiring high dynamic response with short acceleration time.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-38	Slip filter time for calculating field weakening frequency	0xB926	0ms~3000ms	62ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux linkage feedforward calculation by using inverse proportional speed is enabled, increasing the value of this parameter can reduce the fluctuation range of the calculated reference flux linkage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-39	Feedback speed filtering	0xB927	0ms~8000ms	50ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux linkage feedforward calculation by using inverse proportional speed is enabled, increasing the value of this parameter can reduce the disturbance to the calculated flux linkage feedforward introduced by speed test.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-40	Flux linkage rising filter time	0xB928	0ms~8000ms	20ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real

								time
	Description: When flux linkage feedforward calculation by using inverse proportional speed is enabled, this parameter defines the filter time of the asymmetric filter that takes effect only when the reference flux linkage increases.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-41	Field weakening control gain	0xB929	1ms~200ms	50ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Field weakening control gain							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-42	Feedback voltage filter time	0xB92A	0ms~3000ms	0ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Increasing the filter time can reduce the fluctuation of the excitation current setting. To increase the field weakening gain, reduce the filter time. Otherwise, the system will oscillate.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-43	Maximum demagnetization current of synchronous motor	0xB92B	0%~500%	300%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter is used to limit the demagnetization current of synchronous motors to prevent faults such as overload. It is a percentage relative to the rated current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-44	Voltage outer loop lower limit coefficient	0xB92C	0~500	50	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter is used to limit the lower limit of flux linkage during field weakening for asynchronous motors to avoid limiting torque reduction.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-45	Flux linkage derivative feedforward coefficient	0xB92D	0.0~1.5	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux linkage derivative feedforward of an asynchronous motor is enabled, this parameter can adjust the ratio of effective feedforward. A smaller value indicates smaller feedforward effect.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-46	Flux linkage derivative feedforward filter time	0xB92E	0ms~3000ms	6ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Increasing the filter time can reduce the fluctuation of the calculated feedforward value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-47	Torque current rising filter time under energy conservation control	0xB92F	0ms~3000ms	50ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When energy conservation control of an asynchronous motor is enabled, decreasing the value of this parameter can improve dynamic response and avoid a large drop in speed when a sudden load is applied. You need to increase this value when the output current fluctuates greatly.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-48	Torque current falling filter time under energy conservation control	0xB930	0ms~3000ms	100ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When energy conservation control of an asynchronous motor is enabled, decreasing the value of this parameter can make the output current decrease rapidly after the load is reduced. You need to increase this value when the output current fluctuates greatly.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

B9-49	Flux linkage lower limit coefficient under energy conservation control	0xB931	0.00~0.50	0.10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter defines the minimum flux linkage allowed under energy conservation control. A smaller value indicates more significant energy conservation effect when no load is applied, but it will affect dynamic response after the load is added.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-50	Switchover frequency coefficient	0xB932	0.0~10.0	1.0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the minimum permissible frequency when ImCsr2 high-speed mode cuts in the PI section.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-51	Pre-excitation current	0xB933	1%~200%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When pre-excitation of an asynchronous motor is implemented based on current, this parameter defines the reference excitation current as a percentage of the rated current.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-52	Pre-excitation time	0xB934	1ms~30000ms	1000ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When pre-excitation of an asynchronous motor is implemented based on time, this parameter defines the total excitation time. The actual excitation time will be shorter than the set time if remanence exists.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-53	Flux linkage closed-loop bandwidth frequency	0xB935	0.0Hz~100.0Hz	1.0Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: When flux closed loop is enabled, increasing the setpoint can reduce the deviation of the flux linkage from the rated value during dynamic processes such as sudden load or acceleration and deceleration of the asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-54	Feedback flux linkage filter time coefficient	0xB936	0~200	4	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux closed loop is enabled, increasing the setpoint can reduce fluctuation of the reference flux linkage. It is a percentage relative to the rotor time constant.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-55	Static output flux linkage filter time	0xB937	0ms~5000ms	10ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Increasing the setpoint can reduce fluctuation of the reference flux linkage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-56	Current loop mode	0xB938	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Value: 0: ImCsr2 mode 1: Complex vector mode 2: 880 mode 3: No field weakening							
	Description: Decreasing this value can enhance the current loop following capability, but the output current overshoot and harmonics will increase. 0: ImCsr2 mode 1: 880 mode 2: Complex vector mode 3: Non-field weakening mode							
Param	Name	Communication	Range	Default	Data	Change	User	Effective

		address			type	mode	authority	mode
B9-57	PI regulator proportional gain adaptation with load	0xB939	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: PI regulator proportion gain changes automatically with the load 0: Inactive 1: Active							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-58	Current loop damping	0xB93A	0.2~10.0	0.8	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Decreasing the value of this parameter can enhance current loop following but also increase the overshoot and harmonics of the output current.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-59	Low-speed current loop Kp adjustment	0xB93B	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The AC drive automatically calculates the current loop gain based on motor parameters. When the current oscillates at low speed or the torque fluctuates greatly, the set value can be reduced appropriately.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-60	High-speed current loop Kp adjustment	0xB93C	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The AC drive automatically calculates the current loop gain based on motor parameters. When the current oscillates at low speed or the torque fluctuates greatly, the set value can be reduced appropriately.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-61	Current loop Ki adjustment	0xB93D	0.1~10.0	1.0	Unsigned	Real time	Expert	Effective

	at low speed				16 bit	changes	user	in real time
	Description: The AC drive automatically calculates the current loop gain based on motor parameters. When the current oscillates at low speed or the torque fluctuates greatly, the set value can be reduced appropriately.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-62	High-speed current loop Ki adjustment	0xB93E	0.1~10.0	2.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The AC drive automatically calculates the current loop gain based on motor parameters. When the current oscillates at low speed or the torque fluctuates greatly, the set value can be reduced appropriately.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-63	D-axis current loop complex vector adjustment	0xB93F	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set D-axis current loop complex vector adjustment.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-64	Q-axis current loop complex vector adjustment	0xB940	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set Q-axis current loop complex vector adjustment.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-65	Complex vector hysteresis frequency lower limit as a percentage of rated frequency	0xB941	0%~B9-66	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the lower limit of complex vector hysteresis frequency, which is a percentage of rated frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-66	Complex vector hysteresis frequency upper limit as a percentage of rated frequency	0xB942	B9-65~150%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the upper limit of complex vector hysteresis frequency, which is a percentage of rated frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-67	ImCsr2 hysteresis switchover voltage upper limit as a percentage of saturation voltage	0xB943	B9-68~95%	89%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the upper limit voltage for ImCsr2 hysteresis switchover, which is a percentage of saturation voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-68	ImCsr2 hysteresis switchover voltage lower limit as a percentage of saturation voltage	0xB944	60%~B9-67	79%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the lower limit voltage for ImCsr2 hysteresis switchover, which is a percentage of saturation voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-69	ImCsr2 hysteresis switchover frequency hysteresis range as a percentage of rated frequency	0xB945	1%~30%	10%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set ImCsr2 hysteresis range of hysteresis switchover frequency, which is a percentage of rated frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

B9-70	ImCsr2 hysteresis switchover frequency lower limit (below which the hysteresis condition does not take effect) as a percentage of the rated frequency	0xB946	20%~150%	75%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the lower limit of ImCsr2 hysteresis switchover frequency. The frequency hysteresis condition does not activate when this value is not reached. The setpoint is a percentage of rated frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-71	ImCsr2 current loop Kss adjustment	0xB947	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust Kss of ImCsr2 current loop.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-72	Proportional gain adjustment coefficient corresponding to the maximum torque when proportional gain is adjusted with load	0xB948	0.1~1.0	0.5	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the proportional gain adjustment coefficient corresponding to the max. torque.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-73	Torque upper limit setpoint as a percentage of rated torque when proportional gain is adjusted with load	0xB949	B9-74~300%	200%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the torque upper limit, which is a percentage of the rated torque.							
Param	Name	Communication	Range	Default	Data	Change	User	Effective

		address			type	mode	authority	mode
B9-74	Torque lower limit setpoint as a percentage of rated torque when proportional gain is adjusted with load	0xB94A	10%~B9-73	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the torque lower limit, which is a percentage of the rated torque.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-75	Derivative feedforward adjustment	0xB94B	0.0~1.0	0.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust derivative feedforward.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-76	Decoupling control start frequency as a percentage of rated frequency	0xB94C	20%~150%	60%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set decoupling control starting frequency, which is a percentage of rated frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-77	Decoupling control filter time adjustment coefficient	0xB94D	0.1~3.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the filter time adjustment coefficient of decoupling control.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-78	Decoupling control output adjustment coefficient	0xB94E	0.0~1.0	0.7	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description:							

	Used to set decoupling control output adjustment coefficient.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-79	CPC feedforward enable	0xB94F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: CPC feedforward 0: Disable 1: Enable							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-80	Current loop auxiliary command word	0xB950	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

Bit	Name	Value
bit0	Complex vector angle limiting	0: Disabled 1: Enabled
bit1	Voltage angle limiting	0: Program internal limiting 1: Parameter setting
bit2	0 by default	0: No lower limit on the excitation current is imposed during the dynamic process. 1: A lower limit on the excitation current is imposed during the dynamic process in ImCsr2 mode.
bit3	Reserved (0 by default)	

Description:

Current loop auxiliary command word

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-81	Voltage angle upper limit	0xB951	90°~180°	150°	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: Defines voltage angle upper limit.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-82	Voltage angle lower limit	0xB952	0°~90°	30°	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines voltage angle lower limit.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-83	Asynchronous motor D axis integral limit	0xB953	0.500~1.000	0.707	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines asynchronous motor D-axis integral limit.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-84	Defines current loop carrier frequency upper limit.	0xB954	5.0~16.0	8.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines current loop carrier frequency upper limit.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-85	Droop enable	0xB955	0~1	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used in load distribution when a load is driven by multiple motors.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-86	Droop source	0xB956	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real

								time
	Value： 0： Line current 1： Torque reference 2： Speed adjustment output 3： Speed adjustment integral component							
	Description： Used to adjust the reference frequency. The higher the setpoint, the higher the frequency adjustment value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-87	Frequency reference droop coefficient	0xB957	0.0%~50.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Used to adjust the frequency reference droop coefficient.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-88	FVC-SVC switchover mode	0xB958	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value： 0： No switchover 1： Active switchover 2： Passive switchover (Switch to SVC mode when encoder open circuit is detected. If the encoder is recovered during operation, the FVC mode will be recovered after stop.) 3： Passive switchover (Switch to SVC mode when encoder open circuit is detected. If the encoder is recovered during operation, the FVC mode will be recovered during operation or after stop.)							
	Description： Switching from FVC mode to SVC mode 0: Do not switch to the SVC mode in the FVC mode. 1: Keep operating in FVC mode at low speed based on the speed frequencies set by AB-89 and AB-90, and then switch to SVC mode at high speed. This mode is applicable to operating conditions with signals disturbed. When the setpoint 2 is selected, SVC mode applies when the encoder disconnection is detected. After the encoder recovers, the FVC mode does not apply. After stop, the encoder switches to FVC mode again. When the setpoint 3 is selected, SVC mode applies when the encoder disconnection is detected. When the operation resumes or stops, the encoder switches back to the FVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-89	FVC-SVC switchover frequency	0xB959	10%~500%	50%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the switchover frequency when "Switched actively" is selected for FVC-to-SVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-90	FVC-SVC switchover hysteresis	0xB95A	10%~100%	10%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the hysteresis when "Switched actively" is selected for FVC-to-SVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-91	Synchronous motor SVC model parameter 1	0xB95B	1~10000	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model parameter 1							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-92	Synchronous motor SVC model parameter 2	0xB95C	1~10000	5	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model parameter 2							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-93	Synchronous motor SVC model parameter 3	0xB95D	1~100	30	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description:							

	Synchronous motor SVC model parameter 3							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-94	Synchronous motor SVC model parameter 4	0xB95E	-100~+100	20	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model parameter 4							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-95	Synchronous motor SVC model parameter 5	0xB95F	0~50000	30	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model parameter 5							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-96	Synchronous motor SVC command word	0xB960	Refer to "Value"	62	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time

Value:

Bit	Name	Value
bit0	Low-speed processing mode	0: Disable 1: Mode 1 2: Mode 2
bit2	Energy saving optimization	0: Disable 1: Enable
bit3	Online auto-tuning of back EMF	0: Disable 1: Enable
bit4	Inductance mode	0: Fixed value 1: Saturation value 2: Mode 1 3: Mode 2

Description:

The bit information of the SVC command word of the synchronous motor is as follows.

Bit0 to bit1: Low-speed processing mode

	0: Disable 1: Mode 1 2: Mode 2 Bit2: Energy saving optimization 0: Disable 1: Enable Bit3: Online auto-tuning of back EMF 0: Disable 1: Enable Bit4 to bit5: Inductance mode 0: Fixed value 1: Saturation value 2: Mode 1 3: Mode 2

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-97	Synchronous motor SVC low speed threshold 1	0xB961	0.0%~10.0%	0.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC low speed threshold 1							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-98	Synchronous motor SVC low speed threshold 2	0xB962	0.0%~10.0%	0.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC low speed threshold 2							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
B9-99	Synchronous motor SVC low speed voltage coefficient	0xB963	0%~100%	50%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC low speed voltage coefficient							

BA Nameplate and Auto-tuning Parameters of Motor 3

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-00	Motor type	0xBA00	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Asynchronous motor 1: Variable frequency asynchronous motor 2: Permanent magnet synchronous motor 3: Reluctance motor 4: Electromagnetic coil							
	Description: Used to set the motor type on site. 0: Common asynchronous motor A common asynchronous motor is suitable for applications with normal voltage but often full load. Common asynchronous motors cannot meet all the frequency control requirements. 1: Variable frequency asynchronous motor A variable frequency motor can adjust its frequency and speed according to the load. When the voltage is low, the variable frequency motor can reduce the frequency for a reliable start. When the load is light, it can reduce the frequency, speed, and current to save electric energy. 2: Permanent magnet synchronous motor The permanent magnet synchronous motor provides excitation with a permanent magnet. It features simple structure, small size, high efficiency, and high power factor. 3: Reluctance motor without permanent magnet The reluctance motor is a synchronous motor without permanent magnet, whose torque output is totally from the magnetic reluctance torque generated from q-axis and d-axis inductance difference. 4: Electromagnetic coil The electromagnetic coil is generally an inductive coil used for applications such as electromagnetic suction force and heating.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-01	Rated motor power	0xBA01	0.1kW~1000.0kW	3.7kW	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter indicates the power of the motor during normal operation. The rated power of the motor is the rated voltage x rated current of the motor. Select a motor with a proper power rating on the premise that the motor can meet the requirements of mechanical load. Take the motor heat dissipation, allowable overload capacity, and starting capacity into							

	account.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-02	Rated motor voltage	0xBA02	1V~2000V	380V	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated motor voltage indicates the voltage of the motor during normal operation, which usually refers to the line voltage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-03	Rated motor current	0xBA03	0.01A~655.35A	9.00A	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated motor current indicates the current of the motor during normal operation, which usually refers to the line current. 0.01 A~655.35 A (power ⩽ 55 kW) 0.1 A~6553.5 A (power ＞ 55 kW)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-04	Rated motor frequency	0xBA04	0.01Hz~F0-10	50.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated motor frequency indicates the frequency of the power supply connected to the stator winding under the rated operation conditions of the motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-05	Rated motor speed	0xBA05	1rpm~65535rpm	1460rpm	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated motor speed indicates the speed (in the unit of rpm) of the rotor under the rated operating conditions.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
BA-06	Number of parallel motors	0xBA06	1~200	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the number of paralleled motors.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-07	Motor information command word	0xBA07	Refer to "Value"	0x3	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
bit 0	Inductance curve	0: Disable 1: Enable
bit1	D/Q inductance curve	0: Disable 1: Enable
bit2	Online auto-tuning of rotor resistance	0: Disable 1: Enable
bit3	Online auto-tuning mode of rotor resistance	0: Amplitude 1: Phase
bit4	Motor thermal model	0: Disable 1: Enable
bit5	Motor thermal model temperature source	0: Estimated temperature 1: Temperature detected by the sensor
bit6	Calculation mode of asynchronous motor torque coefficient	0: Torque formula 1: Current distribution
bit7	Calculation mode of synchronous motor torque coefficient	0: Torque formula 1: Matching with rated values
bit8	Calculation mode of zero speed friction torque	0: Decreased to zero linearly 1: Keeping min. speed torque
bit9	Calculating model parameter based on nameplate parameters	0: Disable 1: Enable
bit10	Acknowledgment key for calculating model parameter based on nameplate parameters	0: Default 1: Acknowledgment key
bit12	Reluctance motor Lq curve	0: Dynamic auto-tuning results 1: Static auto-tuning results

bit13	Synchronous motor torque precision correction	0: Disable 1: Enable

Description:
Motor information command word (different bits represent different functions):
bit0: Inductance curve
bit1: D/Q inductance curve
bit2: Online auto-tuning of rotor resistance
bit3: Online auto-tuning mode of rotor resistance
bit4: Motor thermal model
bit5: Motor thermal model temperature source
bit6: Calculation mode of asynchronous motor torque coefficient
bit7: Calculation mode of synchronous motor torque coefficient
bit8: Calculation mode of zero speed friction torque
bit9: Calculating model parameter based on nameplate parameters
bit10: Acknowledgment key for calculating model parameter based on nameplate parameters
bit12: Acknowledgment key
bit12: Reluctance motor Ld curve
bit13: Synchronous motor torque precision correction (used in cases requiring high torque precision to improve torque precision during steady-state operation)

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-08	Number of resolver pole pairs	0xBA08	0~64	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the number of motor pole pairs.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-09	Motor power factor	0xBA09	0.600~1.000	0.860	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Motor power factor							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-10	Encoder PPR	0xBA0A	1~65535	1024	Unsigned 16 bit	Shutdown change	General user	Effective in real

								time
	Description: Sets the number of ABZ encoder PPR (total AB pulses per revolution/4), or sine-cosine encoder string waves per revolution. In the FVC mode, the encoder PPR mus be set properly. Otherwise, the motor cannot run normally.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-11	Encoder type	0xBA0B	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: ABZ incremental encoder 1: 23-bit encoder 2: Resolver 3: External input 4: Sin-Cos encoder							
	Description: After installing the PG card, set BA-11 properly to ensure normal operation of the drive. 0: ABZ incremental encoder 1: 23-bit encoder 2: Resolver 3: External input 4: Sin-cos encoder							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-12	Speed feedback PG card	0xBA0C	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Main PG card 1: Auxiliary PG card							
	Description: Used to select the speed measuring angle source. It is recommended to set use the main PG card as the speed feedback source for motor control. The auxiliary PG card can be used to obtain the processing control position/speed. 0: Main PG card 1: Auxiliary PG card							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-13	Number of resolver	0xBA0D	1~65535	1	Unsigned	Shutdown	General	Effective

	pole pairs				16 bit	change	user	in real time
	Description: A resolver is an electromagnetic transducer, also known as a synchronous resolver. It is a small AC motor used to measure angles, and measure shaft angular displacement and angular velocity of a rotating object. It consists of stators and rotors. This parameter indicates the number of pole pairs of the resolver. The higher the number of pole pairs, the higher the precision. If a resolver is applied, set the number of pole pairs of the resolver properly.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-15	Speed feedback PG wire breakage detection time	0xBA0F	0.0s~10.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the open circuit detection time. If it is set to 0.0s, detection is disabled. The drive reports E020.x when an open circuit fault is detected and the fault persists after the time defined by BA-15 elapses.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-16	A/B phase sequence of encoder	0xBA10	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Forward 1: Reverse							
	Description: Change encoder speed measurement phase sequence							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-17	Encoder installation angle	0xBA11	0.0°~359.9°	0.0°	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The angle between motor zero and encoder zero used by the synchronous motor can be auto-tuned.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BA-18	Expansion card	0xBA12	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 1: Expansion card 1 2: Expansion card 2							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-19	ABZ encoder speed measurement mode at low speed	0xBA13	Refer to "Value"	2	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Maintain 1: Attenuate 2: Optimized solution							
	Description: In case of low speed without pulse, three speed measurement solutions are available. 0: Maintain The present speed is kept when there is no pulse, and after 4 ms elapses, current speed is deemed as zero. 1: Attenuate When there is no pulse, the speed attenuates based on 1/2, and after 4 ms elapses, the speed is deemed as zero. 2: Optimize The present speed is kept first and attenuated after a certain number of cycles. When the number of cycles without pulses reaches the zero cycle threshold, the speed is deemed to be zero.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-20	Encoder speed measurement filter time constant	0xBA14	0.000s~10.000s	0.004s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: By adjusting the encoder speed measurement filter time constant, the filtering effect on the encoder signal can be changed. The higher the filter time, the smoother the encoder feedback speed, but the greater the feedback speed delay; the lower the filter time, the greater the encoder feedback speed fluctuation, but the smaller the feedback speed delay; under the FVC control mode, the filter time constant cannot be too low when the resolver and other encoder signal quality is not good.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BA-21	Encoder wire breakage software detection coefficient	0xBA15	0.000~8.000	1.000	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter sets the size of the speed burrs when the speed is abnormal. The default is 100%. Generally, no change is required.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-22	Encoder control word	0xBA16	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
bit0	Speed measurement	0: Disable 1: Enable
bit1	Software disconnection detection	0: Disable 1: Enable
bit2	Burr removal	0: Disable 1: Enable
bit3	ABZ speed measurement mode	0: Quadruple frequency 1: Single pulse
bit4	AB pulse setting mode	0: AB quadrature 1: A-pulse B-direction
bit5	A-pulse B-direction function selection 1	0: Falling edge counting of A 1: Rising edge counting of A
bit6	A-pulse B-direction function selection 2	0: B-direction being forward upon high level/reverse upon low level 1: B-direction being reverse upon high level/forward upon low level

Description:

Bit0: Speed measurement

In FVC mode, speed measurement is enabled automatically. When other control modes apply where the speed needs to be measured, enable the speed measurement to turn on or off the encoder speed measurement.

Bit1: Software disconnection detection

The software disconnection detection is used to detect the encoder function during operation based on the encoder speed measurement results. The detection is not available in the shutdown state. Enabling the software disconnection detection will automatically enables the burr removal function. When the number of speed measurement errors is detected to be greater than BA-23, the encoder software disconnection fault will be reported.

Bit2: Burr removal

	This function is used to remove the speed measurement burrs that occur occasionally. The magnitude of the burrs removed is restricted by B7-08. Bit3 to bit4: ABZ speed measurement mode 0: Quadruple frequency speed measurement mode is used throughout the process. 1: Quadruple frequency speed measurement mode is used during low-speed operation. Single pulse speed measurement mode is used during high-speed operation. 2: Single frequency speed measurement is used throughout the process. Bit5: A/B-pulse reference direction 0: AB quadrature, quadrature speed measurement performed based on the rising/falling edge of AB pulse 1: A-pulse B-direction, counting is performed by taking A signal as counting pulse and B signal as direction indication Bit6: A-pulse B-direction function selection 1 0: Counting applied upon falling edge of A 1: Counting applied upon rising edge of A Bit7: A-pulse B-direction function selection 2 0: When A-pulse edge is reached, UP counting applies upon high level of B/DOWN counting applies upon low level of B. 1: When A-pulse edge is reached, DOWN counting applies upon high level of B/UP counting applies upon low level of B.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-23	Speed measurement exception count threshold	0xBA17	1~100	10	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When encoder software disconnect detection is enabled, an encoder software disconnection fault is reported when the number of speed measurement errors detected is greater than BA-23.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-24	Motor gear ratio (numerator)	0xBA18	1~65535	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the encoder and motor are not coaxially mounted, the control motor needs to set the gear ratio, which forms the gear ratio together with BA-25. If the motor-to-load deceleration ratio is 2.5 (2.5 revolutions of motor = 1 revolution of load), and the encoder is installed on the load, the numerator should be set to 5 and the denominator should be set to 2.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-25	Motor gear ratio (denominator)	0xBA19	1~65535	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time

	Description: When the encoder and motor are not coaxially mounted, the control motor needs to set the gear ratio, which forms the gear ratio together with BA-24. If the motor-to-load deceleration ratio is 2.5 (2.5 revolutions of motor = 1 revolution of load), and the encoder is installed on the load, the numerator should be set to 5 and the denominator should be set to 2.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-26	External input source of encoder	0xBA1A	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: 0	4: Pulse reference	7: Motor-driven potentiometer
1: AI1	5: Communication	8: PID
2: AI2	6: Multi-reference	0: F-connector
3: AI3		

Description:

When the speed comes from a communication reference or an AI terminal reference, the encoder type BA-11 is selected as an external source, and the parameter is set to a corresponding source.

0: 0

No external input source

1: AI1

The real-time target speed is input with the current or voltage signal through AI1 terminal based on the preset AI curve.

2: AI2

The real-time target speed is input with the current or voltage signal through AI1 terminal based on the preset AI curve.

3: AI3

The real-time target speed is input with the current or voltage signal through AI1 terminal based on the preset AI curve.

4: Pulse setting

The real-time target speed is set through DI5.

5: Communication setting

The real-time target speed is set through communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode applies to remote control or centralized control of multiple devices.

6: Multi-reference

In the multi-reference mode, different combinations of DI states correspond to different frequency references. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC.

7: Motorized potentiometer

The real-time target speed is set by the motorized potentiometer module output.

8: PID

The real-time target speed is set through PID output.

Others: F connector

The real-time target speed is set through the connector.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-27	Sin-Cos encoder frequency-division output coefficient	0xBA1B	4~65532	4	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Indicates the number of pulses outputted by the PG card. Indicates the number of pulses outputted by the PG card per revolution of the sin-cos encoder signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-28	Rated speed of high-speed motor	0xBA1C	0rpm~65535rpm	0rpm	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The setpoint applies when the rated speed of the high-speed motor is higher than 60000 rpm (setpoint ⩾ 6000). Otherwise the setpoint of F1-05 applies. The unit is in 10 rpm.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-29	Motor parameter auto-tuning mode	0xBA1D	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: No auto-tuning 1: Static partial auto-tuning of the asynchronous motor 2: Dynamic auto-tuning of the asynchronous motor 3: Static complete auto-tuning of the asynchronous motor 4: Inertia auto-tuning 5: Dead zone auto-tuning 9: Reserved 10: Reserved 11: With-load auto-tuning of the synchronous motor (back EMF excluded) 12: No-load dynamic auto-tuning of the synchronous motor 13: With-load rotary auto-tuning of the synchronous motor (zero point angle excluded) 14: UV gain phase-to-phase deviation auto-tuning							
	Description: For high-performance motor operation, accurate motor parameters are required. Select different motor auto-tuning modes based on the motor type to obtain motor parameters. 0: No auto-tuning Do not perform motor parameter auto-tuning.							

	1: Static partial auto-tuning of the asynchronous motor This mode is applicable to scenarios where the motor cannot be disconnected from loads and dynamic auto-tuning is not feasible. In this mode, some motor parameters are auto-tuned, including BA-30 (Asynchronous motor stator resistance), BA-31 (Asynchronous motor rotor resistance), and BA-32 (Asynchronous motor leakage inductance). Others parameters use the default values. 2: Dynamic auto-tuning of the asynchronous motor This mode is applicable to scenarios requiring high-speed operation. Dynamic auto-tuning can be performed without load or with pure inertia load. Auto-tuning is performed on all the motor parameters, including BA-30 (Asynchronous motor stator resistance), BA-31 (Asynchronous motor rotor resistance), BA-32 (Asynchronous motor leakage inductance), BA-33 (Asynchronous motor mutual inductance), BA-34 (Asynchronous motor no-load current), BA-16 (Encoder phase sequence), motor inertia ratio (BA-42), and friction torque (BA-43). 3: Static complete auto-tuning of the asynchronous motor This mode is applicable to scenarios where the motor cannot be disconnected from loads and dynamic complete auto-tuning is not feasible. Auto-tuning is performed on some motor parameters, including BA-30 (Asynchronous motor stator resistance), BA-31 (Asynchronous motor rotor resistance), BA-32 (Asynchronous motor leakage inductance), BA-33 (Asynchronous motor mutual inductance), and BA-34 (Asynchronous motor no-load current). However, BA-33 and BA-34 have higher precision in the dynamic auto-tuning mode than in this mode. 4: Inertia auto-tuning This mode is applicable to scenarios requiring high-speed operation. Auto-tuning can be performed without load or with light load (below 80% of the rated load) or pure inertia load. After auto-tuning is done, BA-42 (Inertia ratio), BA-43 (Friction torque), and BA-41 (Motor time constant) are updated. 5: Dead zone auto-tuning This mode is used to tune the non-linear characteristics of the drive, thus improving the voltage output precision and operation efficiency. The auto-tuned value is saved in BF-22, and BF-23 to BF-38. 11: With-load auto-tuning of synchronous motor (back EMF excluded) This mode applies to applications where the motor cannot be disconnected from the load. The motor may rotate for several revolutions slowly during auto-tuning. Auto-tuned motor parameters include BA-30 (Motor stator resistance), BA-36 (D-axis inductance of synchronous motor), BA-37 (Q-axis inductance of synchronous motor), and BA-17 (Encoder mounting angle) in the FVC mode. BA-16 (Encoder direction) in the FVC mode is not tuned. Note: Before setting the drive to the FVC mode, change the drive to the SVC mode and check that the encoder direction is correct. Then switch the drive to the FVC mode. 12: No-load dynamic complete auto-tuning of synchronous motor This mode applies to applications where the motor can be disconnected from the load. Auto-tuned motor parameters in the FVC mode include BA-30 (Motor stator resistance), BA-36 (D-axis inductance of synchronous motor), BA-37 (Q-axis inductance of synchronous motor), BA-39 (Synchronous motor back EMF), BA-16 (Encoder phase sequence), and BA-17 (Encoder mounting angle). BA-16 and BA-17 are not tuned in other control modes. 13: With-load rotary auto-tuning of synchronous motor (zero angle excluded) This mode applies to applications where the motor cannot be disconnected from the load and dynamic complete auto-tuning is not allowed. The motor does not rotate during auto-tuning. Auto-tuning is performed on the motor parameters including BA-30 (Motor stator resistance), BA-36 (Synchronous motor d-axis inductance), and BA-37 (Synchronous motor q-axis inductance). Encoder parameters are not tuned. Note: Before setting the drive to the FVC mode, change the drive to the SVC mode and check that the encoder direction is correct. Then switch the drive to the FVC mode. 14: UV gain phase-to-phase deviation auto-tuning

	The current sampling gain deviation between output phases is tuned. The tuned result is updated in FF-05 (Current sampling gain error between U-phase current and V-phase current) and FF-06 (Current sampling gain error between U-phase current and W-phase current).

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-30	Asynchronous motor stator resistance	0xBA1E	0.001Ω~65.535Ω	1.204Ω	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter indicates the DC resistance of stator winding of the asynchronous motor. This parameter can be obtained through motor auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-31	Asynchronous motor rotor resistance	0xBA1F	0.001Ω~65.535Ω	0.908Ω	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The motor rotor resistance is the DC resistance of the motor rotor winding, which can be obtained through motor static or dynamic auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-32	Asynchronous motor leakage inductance	0xBA20	0.01mH~655.35mH	5.28mH	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The leakage inductance of the asynchronous motor is caused by the leakage flux of motor winding. Flux is generated upon current injection into the motor winding, which can be divided into main flux and leakage flux. The leakage flux is the leakage inductance. This parameter can be obtained through motor auto-tuning or dynamic motor auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-33	Asynchronous motor mutual inductance	0xBA21	0.1mH~6553.5mH	156.8mH	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the current in one coil of the motor changes, induced EMF is generated in the coil adjacent to it. This mutually induced EMF can be expressed by mutual inductance.							

	The mutual inductance of a motor can be roughly divided into two types. One is the inter-phase inductance of the stator or rotor, which is the reactance between two phases of the stator or rotor. The other is the inductance between the stator and the rotor. The inductance of the first type does not change with the rotation of the rotor, whereas the inductance of the second type changes accordingly with the rotation of the rotor. Both types are motor mutual inductance, which can be obtained through dynamic motor auto-tuning.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-34	Asynchronous motor no-load current	0xBA22	0.01A~BA-03	4.20A	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the current that passes through the three-phase winding of the stator during no-load operation of the asynchronous motor. The parameter can be obtained by dynamic motor auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-35	Synchronous motor stator resistance	0xBA23	0.001Ω~65.535Ω	1.204Ω	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the DC resistance of stator winding of the synchronous motor. This parameter can be obtained through motor auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-36	Synchronous motor D axis inductance	0xBA24	0.01mH~655.35mH	5.28mH	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the inductance of main pole axis (longitudinal axis) of synchronous motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-37	Synchronous motor Q axis inductance	0xBA25	0.01mH~655.35mH	5.28mH	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the inductance of the center line (quadrature axis) between the adjacent magnetic pole axes of synchronous motor rotor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-39	Synchronous motor back EMF coefficient	0xBA27	0.0V~6553.5V	350.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the RMS value of the motor back EMF at the rated frequency (BA-04).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-40	Stator leakage inductance	0xBA28	0.000mH~65.535mH	6.540mH	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Leakage inductance of asynchronous motor stator							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-41	Electromechanical time constant	0xBA29	0.01s~655.35s	1.00s	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Defines the time for the motor to accelerate to the rated speed at no-load operation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-42	Inertia ratio	0xBA2A	0.0%~6553.5%	120.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the ratio of the actual motor inertia to the default system inertia, which can be auto-tuned by dynamic or inertia auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-43	Friction torque	0xBA2B	0.0%~6553.5%	2.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description:							

	Defines the motor friction torque, which can be auto-tuned.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-44	Excitation current point 1 of mutual inductance curve	0xBA2C	5.0%~100.0%	50.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the excitation current point 1 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-45	Excitation current point 2 of mutual inductance curve	0xBA2D	5.0%~100.0%	75.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the excitation current point 2 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-46	Excitation current coefficient 3 of mutual inductance curve	0xBA2E	100.0%~800.0%	150.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the excitation current point 3 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-47	Excitation current coefficient 4 of mutual inductance curve	0xBA2F	100.0%~800.0%	210.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the excitation current point 4 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-48	Flux coefficient 1 of mutual inductance	0xBA30	10.0%~100.0%	50.0%	Unsigned	Shutdown	Expert	Effective in real

	curve (rated)				16 bit	change	user	time
	Description: Defines the flux point 1 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-49	Flux coefficient 2 of mutual inductance curve (rated)	0xBA31	10.0%~100.0%	85.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the flux point 2 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-50	Flux coefficient 3 of mutual inductance curve	0xBA32	100.0%~300.0%	115.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the flux point 3 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-51	Flux coefficient 4 of mutual inductance curve	0xBA33	100.0%~300.0%	125.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the flux point 4 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-52	Speed point 1 of friction curve	0xBA34	0rpm~30000rpm	15rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 1 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-53	Speed point 2 of	0xBA35	0rpm~30000rpm	30rpm	Unsigned	Shutdown	Expert	Effective

	friction curve				16 bit	change	user	in real time
	Description: Defines the corresponding speed point 2 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-54	Speed point 3 of friction curve	0xBA36	0rpm~30000rpm	60rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 3 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-55	Speed point 4 of friction curve	0xBA37	0rpm~30000rpm	120rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 4 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-56	Speed point 5 of friction curve	0xBA38	0rpm~30000rpm	150rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 5 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-57	Speed point 6 of friction curve	0xBA39	0rpm~30000rpm	300rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 6 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BA-58	Speed point 7 of friction curve	0xBA3A	0rpm~30000rpm	600rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 7 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-59	Speed point 8 of friction curve	0xBA3B	0rpm~30000rpm	1200rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 8 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-60	Speed point 9 of friction curve	0xBA3C	0rpm~30000rpm	1500rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 9 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-61	Speed point 10 of friction curve	0xBA3D	0rpm~30000rpm	3000rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 10 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-62	Torque point 1 of friction curve	0xBA3E	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 1 of speed-friction torque curve.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
BA-63	Torque point 2 of friction curve	0xBA3F	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 2 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-64	Torque point 3 of friction curve	0xBA40	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 3 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-65	Torque point 4 of friction curve	0xBA41	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 4 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-66	Torque point 5 of friction curve	0xBA42	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 5 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-67	Torque point 6 of friction curve	0xBA43	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 6 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-68	Torque point 7 of friction curve	0xBA44	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 7 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-69	Torque point 8 of friction curve	0xBA45	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 8 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-70	Torque point 9 of friction curve	0xBA46	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 9 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-71	Torque point 10 of friction curve	0xBA47	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 10 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-72	Current coefficient starting point of D- and Q-axis inductance curve	0xBA48	-800.0%~+800.0%	-200.0%	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description:							

	Defines the starting point of D/Q-axis inductance curve current coefficient.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-73	Current coefficient end point of D- and Q-axis inductance curve	0xBA49	-800.0%~+800.0%	200.0%	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the end point of D/Q-axis inductance curve current coefficient.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-74	D axis inductance 1 of D- and Q-axis inductance curve	0xBA4A	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-75	D axis inductance 2 of D- and Q-axis inductance curve	0xBA4B	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 2.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-76	D axis inductance 3 of D- and Q-axis inductance curve	0xBA4C	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 3.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-77	D axis inductance 4 of D- and Q-axis	0xBA4D	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real

	inductance curve							time
	Description: Defines D-axis inductance curve point 4.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-78	D axis inductance 5 of D- and Q-axis inductance curve	0xBA4E	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 5.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-79	D axis inductance 6 of D- and Q-axis inductance curve	0xBA4F	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 6.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-80	D axis inductance 7 of D- and Q-axis inductance curve	0xBA50	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 7.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-81	D axis inductance 8 of D- and Q-axis inductance curve	0xBA51	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 8.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-82	D axis inductance 9	0xBA52	0.0%~6553.5%	100.0%	Unsigned	Shutdown	Expert	Effective

	of D- and Q-axis inductance curve				16 bit	change	user	in real time
	Description: Defines D-axis inductance curve point 9.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-83	D axis inductance 10 of D- and Q-axis inductance curve	0xBA53	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 10.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-84	D axis inductance 11 of D- and Q-axis inductance curve	0xBA54	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 11.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-85	D axis inductance 12 of D- and Q-axis inductance curve	0xBA55	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines D-axis inductance curve point 12.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-86	Q axis inductance 1 of D- and Q-axis inductance curve	0xBA56	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BA-87	Q axis inductance 2 of D- and Q-axis inductance curve	0xBA57	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 2.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-88	Q axis inductance 3 of D- and Q-axis inductance curve	0xBA58	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 3.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-89	Q axis inductance 4 of D- and Q-axis inductance curve	0xBA59	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 4.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-90	Q axis inductance 5 of D- and Q-axis inductance curve	0xBA5A	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 5.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-91	Q axis inductance 6 of D- and Q-axis inductance curve	0xBA5B	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 6.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
BA-92	Q axis inductance 7 of D- and Q-axis inductance curve	0xBA5C	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 7.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-93	Q axis inductance 8 of D- and Q-axis inductance curve	0xBA5D	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 8.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-94	Q axis inductance 9 of D- and Q-axis inductance curve	0xBA5E	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 9.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-95	Q axis inductance 10 of D- and Q-axis inductance curve	0xBA5F	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 10.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-96	Q axis inductance 11 of D- and Q-axis inductance curve	0xBA60	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 11.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BA-97	Q axis inductance 12 of D- and Q-axis inductance curve	0xBA61	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the Q-axis inductance curve point 12.							

BB V/f Control Parameters & Vector Parameters (1) of Motor 3

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-00	V/f curve setting	0xBB00	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Linear V/f 1: Multi-point V/f 2: Reserved 3: Reserved 4: Reserved 5: Reserved 6: Reserved 7: Reserved 8: Reserved 9: Reserved 10: V/f fully separated mode 11: V/f partially separated mode							
	Description: Used to set the V/f curve. In V/f mode, different V/f curves can be set according to different application conditions. 0: Linear V/f The output voltage and output frequency change linearly when below the rated frequency. It is applicable to general mechanical drive applications such as large inertia fan acceleration, punch presses, centrifuges and water pumps. 1: Multi-point V/f curve The range of the frequency point is 0.00 Hz to the rated motor frequency. The range of the voltage point is 0.0% to 100.0%, which corresponds to 0 V to the rated motor voltage. Set the multi-point V/f curve based on motor's load characteristic. Observe this formula during settings: F3-03 ≤ F3-05 ≤ F3-07 10: V/f fully separated mode The output frequency and output voltage of the AC drive are independent. The output frequency is determined by the frequency source, and the output voltage is determined by the voltage source for V/f separation. This curve applies to torque motor control applications. 11: V/f partially separated mode In this mode, V and f are proportional. The relationship between V and f is also related to the rated motor voltage and rated motor frequency in group motor 1. The relationship between the output voltage of the drive (V) and frequency (f) is as follows: V/f = 2 x (Voltage source input) x (Rated motor voltage)/(Rated motor frequency). Note: The input value of the voltage source is 0 to 100%.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-01	Torque boost	0xBB01	0.0%~30.0%	3.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The torque boost function is generally applicable to low-frequency operations of the drive. The output torque of the AC drive in the V/f control mode is proportional to the frequency. During operation at low frequencies, the motor torque is low when the motor runs at a low speed. In this case, you can set this parameter to increase the output voltage of the drive to improve the output torque. Note that the torque boost value must be set properly. Otherwise, overload protection will be triggered.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-02	Cut-off frequency of torque boost	0xBB02	0.00Hz~F0-10	50.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the running frequency reaches the cutoff frequency of torque boost, the torque boost function is disabled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-03	Multi-point V/f frequency 1	0xBB03	0.00Hz~BB-05	0.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the frequency point 1 of multi-point V/f curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-04	Multi-point V/f voltage 1	0xBB04	0.0%~100.0%	0.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the voltage point 1 of multi-point V/f curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-05	Multi-point V/f	0xBB05	BB-03~BB-07	0.00Hz	Unsigned	Shutdown	General	Effective

	frequency 2				16 bit	change	user	in real time
	Description: Defines the frequency point 2 of multi-point V/f curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-06	Multi-point V/f voltage 2	0xBB06	0.0%~100.0%	0.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the voltage point 2 of multi-point V/f curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-07	Multi-point V/f frequency 3	0xBB07	BB-05~BA-04	0.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the frequency point 3 of multi-point V/f curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-08	Multi-point V/f voltage 3	0xBB08	0.0%~100.0%	0.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the voltage point 3 of multi-point V/f curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-09	V/f slip compensation gain	0xBB09	0.0~6553.5	0.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: In V/f mode, increasing the output frequency compensates for the motor speed deceleration. A higher gain indicates a higher compensation frequency. However, an excessively high gain can incur overcompensation.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
BB-10	V/f over-excitation gain	0xBB0A	0~200	64	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: A larger over-excitation gain indicates better suppression effect. When a braking resistor, braking unit, or energy feedback unit is used, set this parameter to 0. Otherwise, overcurrent may occur during operation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-11	V/f oscillation suppression gain	0xBB0B	0~100	40	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The higher the vibration gain, the better the suppression performance.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-12	V/f oscillation suppression	0xBB0C	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: In V/f mode, for most motors, speed and current oscillation will occur at low frequency, which may lead to overcurrent of the AC drive. Oscillation can be eliminated by enabling oscillation suppression.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-13	Voltage source for separated V/f	0xBB0D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Digital setting (BB-14) 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Multi-reference 6: Simple PLC 7: PID 8: Communication Others: F connector							

	Description: Defines the target voltage reference source in case of separated V/f. 0: Digital setting (BB-14) The V/f separation voltage is set by BB-14. 1: AI1 The V/f separation voltage is inputted by current or voltage signal through the AI1. The frequency is calculated according to the AI curve. 2: AI2 The V/f separation voltage is inputted by current or voltage signal through the AI2. The frequency is calculated according to the AI curve. 3: AI3 The V/f separation voltage is inputted by current or voltage signal through the AI3. The frequency is calculated according to the AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card. 4: The Pulse reference (DI5) The V/f separation voltage is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and running frequency. 5: Multi-reference In multi-reference mode, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC. 6: Simple PLC The V/f separation voltage is set by simple PLC. For details, see the function description of simple PLC. 7: PID The V/f separation voltage is set through PID. For details, see descriptions of the PID function. 8: Communication The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment. Others: F connector Read the connector value through setting the parameter No. of a float connector. The value being read is used as the motoring torque upper limit reference in speed control. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-14	Voltage digital setting for V/f separation	0xBB0E	0V~BA-02	0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the digital setting for V/f separation voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BB-15	Voltage rise time of V/f separation	0xBB0F	0.0s~1000.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the time required for the output voltage to accelerate from 0 to the setpoint of separated V/f voltage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-16	Voltage decline time of V/f separation	0xBB10	0.0s~1000.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the time required for the output voltage to decline from the setpoint of separated V/f voltage to 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-17	Stop mode for separated V/f	0xBB11	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Frequency and voltage decline to 0 independently 1: Frequency declines to 0 after voltage declines to 0 2: Coast to stop (new)							
	Description: 0: The frequency and voltage decrease to 0 independently. 1: The frequency decreases to 0 according to the deceleration time after the voltage decreases to 0 according to the deceleration time. 2: The AC drive coasts to stop without following the stop deceleration curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-18	Overcurrent action current	0xBB12	50%~200%	150%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the motor current reaches the value of this parameter, the AC drive starts the overcurrent stall function. The default value is 150%, corresponding to 1.5 x the rated current of the drive.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
BB-19	Overcurrent selection	0xBB13	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Determines whether the V/f overcurrent stall function is enabled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-20	Overcurrent stall suppression gain	0xBB14	1~500	20	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the current exceeds the overcurrent stall action current, the overcurrent stall suppression function is triggered, and the output frequency decreases. When the current falls below the overcurrent stall threshold, the output frequency increases to the target frequency, and the actual acceleration time prolongs automatically. A larger parameter value indicates better suppression effect.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-21	Action current compensation coefficient for overcurrent stall at multiplied rated frequency	0xBB15	50%~200%	100%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter reduces the overcurrent stall action current at high speed. It is invalid when set to 50%. The recommended value for BB-18 in the flux weakening area is 100%.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-22	V/f overvoltage stall suppression voltage	0xBB16	330.0V~800.0V	770.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	When the bus voltage reaches this value, the AC drive starts the voltage limit function.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-23	V/f overvoltage stall suppression	0xBB17	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Used to enable/disable the V/f overvoltage stall suppression. 0: Disabled 1: Enabled (overvoltage stall gain activated by default) The function of F3-23 is the same as F9-04 (Overvoltage stall protection voltage). When a braking resistor, braking unit, or energy feedback unit is used, set this parameter to 0. Otherwise, the deceleration time may be prolonged.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-24	V/f frequency gain for voltage limit	0xBB18	1~500	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing BB-24 improves the control effect of bus voltage, but the output frequency will fluctuate. If the output frequency fluctuates greatly, reduce BB-24 appropriately. The function of BB-24 is the same as F9-03 (Overvoltage stall gain).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-25	V/f overvoltage stall suppression voltage gain	0xBB19	1~500	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter suppresses the bus voltage. Increasing the parameter value can reduce the overshoot of the bus voltage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-26	Frequency rise limit for V/f overvoltage stall	0xBB1A	0Hz~50Hz	5Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real

	suppression							time
	Description: The running frequency may increase when the voltage limit function is enabled. This parameter limits the increase of the running frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-27	Slip compensation filter time	0xBB1B	0.1s~10.0s	0.5s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Time constant of slip compensation frequency The larger the time constant is, the more stable the frequency of the slip compensation is, and the less the frequency is affected by load disturbance and noise. However, the response to load changes will be slower.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-28	Multi-point curve source	0xBB1C	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: 3-point curve 1: Multi-point curve module A 2: Multi-point curve module B							
	Description: Used to select the multi-point curve. 0: 3-point curve The 3-point curve applies by default, which is set by F3-03...F3-08. 1: Multi-point curve module A The free module A output is used as multi-point curve setting. 2: Multi-point curve module B The free module B output is used as multi-point curve setting.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-33	Online torque compensation gain	0xBB21	80~150	100	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description:							

	In V/f mode, BB-01 increases the output voltage of the AC drive according to a fixed curve. When BB-33 ⩾ 100 or BB-01 = 0, an additional boost related to the load magnitude can be superimposed to the output voltage that has already been boosted based on BB-01, which is automatic torque boost compensation. The higher the gain of BB-33, the higher the torque boost compensation. When BB-33 < 100 and BB-01 ≠ 0, the automatic torque boost compensation is disabled.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-34	Overcurrent stall suppression Ki coefficient	0xBB22	10%~1000%	100%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the current filter time upon slip compensation without PG of asynchronous motor in V/f mode The shorter the filter time, the faster the response speed of slip compensation. However, an excessively short filter time may lead to oscillation. The longer the filter time, the slower the slip compensation speed, and the more stable the adjustment process will be.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-35	Overcurrent stall suppression threshold (rated current of motor)	0xBB23	80%~300%	200%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the asynchronous motor operates in V/f mode, the slip exists between the rotor speed and synchronous frequency, which can cause low motor speed precision. In this case, the heavier the load, the lower the speed precision. The slip compensation can be used to compensate for the speed change to improve the speed precision. The slip compensation with PG is applicable to applications with motor encoder. The output frequency is compensated based on the speed feedback from the encoder, which features high precision. In absence of an encoder, use slip compensation without PG to perform compensation based on the load current, which features lower precision compared with the slip compensation with PG.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-36	Frequency for activating field weakening upon overcurrent stall suppression	0xBB24	100%~500%	100%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the motor operates at a frequency higher than this setpoint, the target current of overcurrent suppression drops in reverse proportion. The current oscillate when entering the field weakening area. In this case, lower this frequency threshold properly.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-37	IT filter time	0xBB25	10ms~1000ms	100ms	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the current filter time upon slip compensation without PG of asynchronous motor in V/f mode The shorter the filter time, the faster the response speed of slip compensation. However, an excessively short filter time may lead to oscillation. The longer the filter time, the slower the slip compensation speed, and the more stable the adjustment process will be.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-38	Slip compensation mode	0xBB26	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Slip compensation without PG 2: Slip compensation with PG							
	Description: When the asynchronous motor operates in V/f mode, the slip exists between the rotor speed and synchronous frequency, which can cause low motor speed precision. In this case, the heavier the load, the lower the speed precision. The slip compensation can be used to compensate for the speed change to improve the speed precision. The slip compensation with PG is applicable to applications with motor encoder. The output frequency is compensated based on the speed feedback from the encoder, which features high precision. In absence of an encoder, use slip compensation without PG to perform compensation based on the load current, which features lower precision compared with the slip compensation with PG.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-39	Permissible overvoltage suppression time in V/f mode	0xBB27	0.0s~100.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Permissible overvoltage suppression time							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BB-40	Upper limit of V/f separation voltage	0xBB28	50.0%~200.0%	100.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the upper limit of V/f separation voltage, which takes the rated motor voltage as the basis.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-41	Frequency RFG time of V/f separation	0xBB29	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: RFG time forced to 0 1: Preset RFG time							
	Description: Used to select the RFG time of V/f separation frequency. The setpoint 0 indicates the acceleration/deceleration time of the frequency reference is forced to 0. The setpoint 1 indicates the acceleration/deceleration is set based on normal operation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-42	Cut-off frequency of V/f oscillation suppression filter	0xBB2A	1.0Hz~50.0Hz	8.0Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The motor may oscillate due to mechanical resonance in V/f mode. The system damping can be improved through vibration suppression algorithm. The oscillation frequency can be suppressed only when it is higher than the cut-off frequency of the oscillation suppression filter.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-43	Cut-off frequency for active V/f oscillation suppression	0xBB2B	10Hz~3000Hz	200Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The oscillation suppression is not activated when the motor speed is higher than this cut-off frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-44	VdcMaxCtrl	0xBB2C	0%~500%	0%	Unsigned	Real time	General	Effective

	feedforward coefficient				16 bit	changes	user	in real time
	Description: Used to boost the synchronous frequency to prevent overvoltage caused by slow response when entering overvoltage suppression in V/f mode. The higher the setpoint, the better the dynamic responsiveness. However, an excessively high setpoint may result in motor oscillation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-45	Synchronous motor IF selection	0xBB2D	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
BB-46	Synchronous motor IF current	0xBB2E	0.0%~200.0%	50.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BB-47	Synchronous motor IF switchover frequency	0xBB2F	0.0%~100.0%	2.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BB-48	Hysteresis frequency for synchronous motor IF switchover	0xBB30	0.0%~100.0%	2.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BB-49	Synchronous motor IF current switchover time	0xBB31	0.001s~20.000s	1.000s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-50	PMVVC low-speed IF	0xBB32	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: When this function is enabled, the motor switches to IF operation mode during operating at the speed defined by BB-51. The switchover speed is defined by BB-52. The function applies to applications requiring high torque at low speed.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
BB-51	PMVVC low-speed IF current	0xBB33	30~250	100	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the current during low-speed IF operation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-52	PMVVC low-speed IF speed switching threshold	0xBB34	2.0%~100.0%	10.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When BB-50 is enabled, the IF mode applies when this threshold is not reached; the V/f mode applies when this threshold is reached.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-53	PMVVC oscillation suppression gain coefficient	0xBB35	0~500	100	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter specifies oscillation suppression gain in PMVVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-54	PMVVC filter time coefficient	0xBB36	0~500	100	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the filter time constant in PMVVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-55	PMVVC energy conservation control mode	0xBB37	Refer to "Value"	2	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value:							

	0： Fixed linear V/f curve 1： Fixed 30% reactive current 2： MTPA control
	Description： Used to select the energy-saving control mode in VVC mode of the synchronous motor. 0: Fixed linear V/f curve 1: Fixed 30% reactive current 2: MTPA control maximum torque-to-current ratio and maximum torque output per unit current

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-56	VVC current loop adaptation coefficient	0xBB38	0%~1000%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： Used to adjust VVC current loop strength and weakness.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-57	MTPA adaptation coefficient of VVC	0xBB39	0%~1000%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： Used to adjust the intensity of VVC energy-saving control.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-60	SFC control enable switch	0xBB3C	0~1	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description： When this function is turned on, the original synchronous motor VVC mode will switch to stator magnetic linkage orientation control.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-61	SFC control weak magnetic integral	0xBB3D	0~1000	200	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: Defines the field weakening controller integral coefficient in stator magnet linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-62	SFC control M-axis ratio	0xBB3E	1~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the M-axis controller proportional coefficient in stator linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-63	SFC control M-axis integral	0xBB3F	1~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the M-axis controller integral coefficient in stator magnetic linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-64	SFC control T-axis ratio	0xBB40	1~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the T-axis controller proportional coefficient in stator magnetic linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-65	SFC control T-axis integral	0xBB41	1~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the T-axis controller integral coefficient in stator magnetic linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-66	Flux lower limit of SFC	0xBB42	0%~1000%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real

								time
	Description: Defines the min. allowable flux output in the stator flux linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-67	Waiting time of SFC switchover	0xBB43	0ms~10000ms	0ms	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the waiting time for IF switch-in of SFC in stator magnet linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-68	Flux coefficient setpoint of SFC	0xBB44	0%~1000%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust target output flux in stator linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-69	Coil control mode	0xBB45	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: V/f separation active 1: IF separation active							
	Description: Used to define whether to use V/f separation or IF separation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-70	Voltage source for coil IF separation	0xBB46	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Digital setting (BB-71) 4: Pulse reference (DI5) 7: PID							

	1：AI1	5：Multi-reference	8：Communication
	2：AI2	6：Simple PLC	Others：F connector
	3：AI3		

Description：

Defines the target current reference source when the coil current and frequency are separated.

0: Digital setting (BB-71)

The IF separation current is set through BB-71.

1: AI1

The IF separation current is inputted by current or voltage signal through AI1. The frequency is calculated according to the AI curve.

2: AI2

The IF separation current is inputted by current or voltage signal through AI2. The frequency is calculated according to the AI curve.

3: AI3

The IF separation voltage is inputted by current or voltage signal through AI3. The frequency is calculated according to the AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card.

4: Pulse reference (DI5)

The IF separation voltage is set through DI5. The frequency is calculated based on the relationship curve between the pulse frequency and running frequency.

5: Multi-reference

In multi-reference mode, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC.

6: Simple PLC

The IF separation voltage is set by simple PLC. For details, see the function description of simple PLC.

7: PID

The IF separation voltage is set through PID. For details, see descriptions of the PID function.

8: Communication

The IF separation current is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment.

Others: F connector

Read the connector value through setting the parameter No. of a float connector. The value being read is used as the IF separation current in speed control. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-71	Current reference for coil IF separation	0xBB47	1.00%~120.00%	20.00%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description：							

	Defines the current reference value in IF control mode in percentages.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-72	Voltage rise time for coil IF separation	0xBB48	0.000s~65.000s	0.000s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The current rise time of the IF separation is the time required for the output current to accelerate from 0 to the motor rated current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-73	Current fall time for coil IF separation	0xBB49	0.000s~65.000s	0.000s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The current fall time of the IF separation is the time required for the output current to accelerate from 0 to the motor rated current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-74	Max. current value for coil IF separation	0xBB4A	1.00%~120.00%	100.00%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the max. current limit in IF control mode in percentages.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-75	Stop mode for coil IF separation	0xBB4B	Refer to "Value"	2	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Frequency and voltage declined to 0 independently 1: Frequency declined to 0 after current declined to 0 2: Coast to stop							
	Description: Used to select the respective stop modes for the coil current and frequency.							

	0: The frequency/current declines to 0 independently based on respective deceleration time. 1: The current declines to 0 based on the deceleration time. Then the frequency declines to 0 based on the deceleration time. 2: The current/frequency coasts to stop, regardless of the deceleration curve.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-76	PM observer stator resistance coefficient	0xBB4C	0%~1000%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the PM observer stator resistance ratio.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-77	Waiting time of PM observer auto-tuning	0xBB4D	0s~1000s	0s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the waiting time of PM observer online auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-78	Coil IF separation current control coefficient	0xBB4E	1~1000	50	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the current control coefficient in IF control mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-79	Coil IF separation sub-controller switch	0xBB4F	0~1	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the enable switch for negative sequence controller in IF control mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BB-80	Proportional coefficient of coil IF separation sub-controller	0xBB50	1%~1000%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the negative sequence controller proportional coefficient in IF control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-81	Integral coefficient of coil IF separation sub-controller	0xBB51	1%~1000%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the negative sequence controller integral coefficient in IF control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-82	Voltage limit of coil IF separation sub-controller	0xBB52	1%~100%	40%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the output voltage limit for negative sequence controller in IF control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-83	Coil transformer change ratio	0xBB53	1.0~100.0	1.0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-85	Synchronous motor observer switchover	0xBB55	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Mode 0 1: Mode 1							
	Description: Synchronous motor observer mode switchover 0: Mode 0							

	New SVC observer type 1: Mode 1 Original SVC observer type

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-86	Switchover frequency of synchronous motor SVC model	0xBB56	0.0%~100.0%	10.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model switchover frequency							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-87	Synchronous motor SVC model switchover hysteresis frequency	0xBB57	0.0%~100.0%	5.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model switches hysteresis frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-88	Synchronous motor SVC model parameter 0	0xBB58	0~100	5	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model parameter 0							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-89	Synchronous motor SVC model parameter 1 lower limit	0xBB59	1~100	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model parameter 1 lower limit							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-90	Synchronous motor	0xBB5A	1~10	10	Unsigned	Real time	Expert	Effective in real

	SVC model parameter 6				16 bit	changes	user	time
	Description: Synchronous motor SVC model parameter 6							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-91	Synchronous motor SVC model parameter 1	0xBB5B	1~10000	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model parameter 1							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-92	Synchronous motor SVC model parameter 2	0xBB5C	1~10000	5	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model parameter 2							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-93	Synchronous motor SVC model parameter 3	0xBB5D	1~100	30	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model parameter 3							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-94	Synchronous motor SVC model parameter 4	0xBB5E	-100~+100	20	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: Synchronous motor SVC model parameter 4							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-95	Synchronous motor	0xBB5F	0~50000	30	Unsigned	Real time	Expert	Effective

	SVC model parameter 5				16 bit	changes	user	in real time
	Description: Synchronous motor SVC model parameter 5							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-96	Synchronous motor SVC command word	0xBB60	Refer to "Value"	62	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time

Value:

Bit	Name	Value
bit0	Low-speed processing mode	0: Disable 1: Mode 1 2: Mode 2
bit2	Energy saving optimization	0: Disable 1: Enable
bit3	Online auto-tuning of back EMF	0: Disable 1: Enable
bit4	Inductance mode	0: Fixed value 1: Saturation value 2: Mode 1 3: Mode 2

Description:

Bit0 to bit1: Low-speed processing mode

0: Disable

1: Mode 1

2: Mode 2

Bit2: Energy saving optimization

0: Disable

1: Enable

Bit3: Online auto-tuning of back EMF

0: Disable

1: Enable

Bit4 to bit0: Inductance mode

0: Fixed value

1: Saturation value

2: Mode 1

3: Mode 2

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BB-97	Synchronous motor SVC low speed threshold 1	0xBB61	0.0%~10.0%	0.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BB-98	Synchronous motor SVC low speed threshold 2	0xBB62	0.0%~10.0%	0.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BB-99	Synchronous motor SVC low speed voltage coefficient	0xBB63	0%~100%	50%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

BC Control and Protection Parameters of Motor 3

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-00	Startup mode	0xBC00	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Direct start 1: Flying start 2: Pre-excitation start (AC asynchronous motor) 3: SVC quick start							
	Description: Flying start is recommended if you need to start a motor that is rotating at a high speed. The pre-excitation start and SVC quick start apply to AC asynchronous motors only. 0: Direct start The AC drive adopts direct start, which is suitable for most loads. 1: Flying start The AC drive first judges the speed and direction of the motor and starts at the motor frequency tracked. 2: Pre-excitation start (for AC asynchronous motor) This mode applies only to inductive AC asynchronous motors in SVC and FVC control modes. Pre-excitation of the motor before start can improve the responsiveness of the motor and reduce the starting current. 3: SVC quick start It is applicable only to the asynchronous motor SVC control mode. This mode can be used to shorten the acceleration time. This mode can be enabled when the system inertia is large and quick start is required, but a torque shock can also be							

	generated.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-01	Speed tracking mode	0xBC01	Refer to "Value"	4	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: From the stop frequency 1: From the power frequency 2: From the maximum frequency 3: Reserved 4: Magnetic field directional speed tracking (MD290)							
	Description: The start frequency of flying start upon restart varies with different modes. The motor rotation direction cannot be detected during flying start. Therefore, the direction defined by the present start command must be the same as the direction at the last stop event. Otherwise, flying start fails. 0: Starting from the stop frequency The search mode from the stop frequency is to search for 0 Hz from the frequency at the previous stop. If external force drives the motor to a higher speed than the speed at stop, the flying start mode is not applicable. 1: Starting from the mains frequency This mode is applicable to the scenario where the motor is restarted after stop for a long time. 2: Starting from the max. frequency Track down from the max. frequency. This mode is applicable to generating loads. 3: Reserved 4: Magnetic field position-based speed tracking Used for fast speed tracking in V/f mode (static motor parameter auto-tuning is required).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-02	Speed of speed tracking	0xBC02	1~100	20	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to select the speed tracking speed. The higher the setpoint, the higher the tracking speed. But an excessively high value may lead to unstable tracking.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-03	Startup frequency	0xBC03	0.00Hz~10.00Hz	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time

	Description: This parameter defines the startup frequency for direct start of the AC drive. When the frequency reference is lower than the startup frequency, the AC drive will not start but stay standby.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-04	Startup frequency hold time	0xBC04	0.0s~100.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter defines the hold time during which the output frequency remains at the startup frequency. After this hold time elapses, the AC drive will accelerate/decelerate to the reference frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-05	DC braking current at startup	0xBC05	0%~100%	50%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: A larger DC braking current indicates stronger braking force. 100% corresponds to the rated motor current (the current upper limit is 80% of the rated current of the AC drive).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-06	DC braking time at startup	0xBC06	0.0s~100.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter defines the time for DC braking at startup, which is valid only when the startup mode is direct start.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-07	Stop mode	0xBC07	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Decelerate to stop 1: Coast to stop 2: Stop at maximum capability							

	Description: Used to select the stop mode of the AC drive. 0: Decelerate to stop Once the stop command is input, the AC drive decreases the output frequency to 0 and then stops based on the deceleration time. 1: Coast to stop Once the stop command is input, the AC drive immediately stops output. The motor then coasts to stop based on the mechanical inertia. 2: Stop at maximum capability. The motor speed reference is set to 0 forcibly. The motor decelerates to 0 based on the maximum output capacity. The motor torque or current may reach the limit value during deceleration.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-08	Start frequency of DC braking at stop	0xBC08	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: During decelerating to stop, the drive starts DC braking when the operating frequency drops below the value of F6-11.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-09	DC braking delay at stop	0xBC09	0.0s~100.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the running frequency decreases to the start frequency of DC braking at stop, the AC drive stops output and starts DC braking after this waiting time.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-10	DC braking current at stop	0xBC0A	0%~100%	50%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: A larger DC braking current indicates stronger braking force. 100% corresponds to the rated motor current (the current upper limit is 80% of the rated current of the AC drive).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BC-11	DC braking time at stop	0xBC0B	0.0s~100.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: If this parameter is set to 0, DC braking is disabled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-12	Speed tracking sweep current limit closed loop Kp	0xBC0C	0~1000	500	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: It takes effect when BC-01 is set to 0, 1, or 2. It is used to set the proportional gain of the current suppression PI regulator during the speed search process in the flying start mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-13	Frequency sweeping current amplitude closed-loop Ki in speed tracking	0xBC0D	0~1000	800	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Close-loop current Ki in torque tracking							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-14	Speed tracking current	0xBC0E	30%~200%	80%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Generally, overcurrent will occur on the asynchronous motor due to large slip when flying start is adopted. The current must be limited for preventing overcurrent. This parameter is used to set the motor current to be suppressed in the process of flying start.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-15	Current loop multiple	0xBC0F	10%~600%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time

	Description: Defines the current loop regulation coefficient during speed tracking. The higher the current, the quicker the tracking speed. But an excessively high setpoint may lead to oscillation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-16	Demagnetization time (valid for asynchronous motors)	0xBC10	0.00s~5.00s	0.50s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the minimum waiting time for restart after shutdown.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-17	Over-excitation enable	0xBC11	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: Activated when the motor is in the deceleration and power generation state 2: Activated when the motor is in the deceleration state and the bus voltage exceeds the overvoltage threshold							
	Description: When the energy generated during deceleration is too large, the energy generated can be partially consumed by switching on the over-excitation. 0: Disabled 1: Active when the motor is decelerating and generating 2: Active when the motor decelerates and the bus voltage pump rises above the threshold (the bus voltage threshold is the value of overvoltage suppression threshold minus 100 V)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-18	Over-excitation suppression additional current value	0xBC12	0%~200%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the current amplitude superimposed based on the original excitation current, which is a ratio to the rated motor current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BC-20	Parameter auto-tuning upon startup	0xBC14	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
bit0	Auto-tuning of synchronous motor starting magnetic pole position	0: Disable 1: Enable
bit1	Starting quick auto-tuning of stator resistance	0: Disable 1: Enable
bit2	Auto-tuning of high-frequency injection magnetic pole position	0: Disable 1: Enable 2: Adaptive
bit4	Starting IGBT short circuit detection	0: Disable 1: Enable
bit5	Starting short circuit to ground detection (reserved)	0: Disable 1: Enable
bit6	Starting phase loss detection (reserved)	0: Disable 1: Enable
bit7	Pre-positioning before start of synchronous motor	0: Disable 1: Enable

Description:

Configure steps related to self-test and auto-tuning before motor start

Bit0: Magnetic pole position auto-tuning enabled upon start of synchronous motor

0: Disable

Magnetic pole position auto-tuning not enabled upon start of synchronous motor

1: Enable

Magnetic pole position auto-tuning enabled upon start of synchronous motor

Bit1: Quick auto-tuning of stator resistance enabled upon start of synchronous motor

0: Disable

Quick auto-tuning of stator resistance not enabled upon start of synchronous motor

1: Enable

Quick auto-tuning of stator resistance enabled upon start of synchronous motor

Bit2: Magnetic pole position auto-tuning through high-frequency injection

0: Disable

Do not use high-frequency injection for magnetic pole position auto-tuning.

1: Enable

Use high-frequency injection for magnetic pole position auto-tuning.

2: Adaptive

The AC drive uses proper method to auto-tune magnetic pole position.

Bit4: Start IGBT short circuit auto-inspection

	0: Disable IGBT short circuit auto-inspection is not performed upon start of IGBT. 1: Enable IGBT short circuit auto-inspection is performed upon start of IGBT. Bit5: Enable short-circuit to ground auto-inspection (reserved) reserved bit, no function Bit6: Phase loss auto-inspection (reserved) Reserved bit, no function Bit7: Pre-positioning before start of synchronous motor 0: Disable No pre-positioning is performed before start of synchronous motor. 1: Enable Pre-positioning is started before start of the synchronous motor.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-21	Motor parameter auto-tuning direction	0xBC15	0~1	1	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the direction of rotation for dynamic auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-22	Back EMF auto-tuning vibration suppression gain of synchronous motor	0xBC16	0.0~30.0	3.2	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Used to suppress oscillation that occur during back EMF auto-tuning of synchronous motor. If oscillation occurs during back EMF auto-tuning, increase the setpoint properly.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-23	Target speed of rotation auto-tuning	0xBC17	30.0%~100.0%	70.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Used to set the speed during auto-tuning of no-load current and mutual inductance curve of asynchronous motor. When the bus voltage is lower than 70% of the normal value or the motor is not allowed to operate at high speed, decrease this							

	speed.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-24	Target speed 1 of inertia auto-tuning	0xBC18	10.0%~BC-25	40.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: During inertia auto-tuning, the motor may accelerate/decelerate repeatedly between this speed and BC-25 to auto-tune the inertia.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-25	Target speed 2 of inertia auto-tuning	0xBC19	BC-24~100.0%	60.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: During inertia auto-tuning, the motor may accelerate/decelerate repeatedly between this speed and BC-24 to auto-tune the inertia.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-26	Overcurrent prevention of mutual inductance saturation curve	0xBC1A	0~1	1	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: If the mutual inductance curve of the asynchronous motor is over-saturated, this parameter can be used to prevent overcurrent during voltage rise.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-27	Motor parameter auto-tuning item configuration	0xBC1B	Refer to "Value"	125	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
bit0	Adaptive speed loop parameters	0: Disable 1: Enable

bit1	Adaptive current loop parameters	0: Disable 1: Enable
bit2	Non-linear auto-tuning of the drive	0: Disable 1: Enable
bit3	Phase-to-phase deviation coefficient auto-tuning	0: Disable 1: Enable
bit4	Auto-tuning of initial magnetic pole position	0: Disable 1: Enable
bit5	Auto-tuning of synchronous motor D/Q-axis inductance model	0: Disable 1: Enable
bit6	Auto-tuning of system moment of inertia	0: Disable 1: Enable
bit7	Auto-tuning of High-frequency injection magnetic pole position	0: Disable 1: Enable
bit8	Auto-tuning of DC injection	0: Disable 1: Enable
bit9	Auto-tuning of no-load current vector	0: Disable 1: Enable
bit10	Speed source of no-load current vector auto-tuning	0: Set by the user 1: Set internally
bit11	Back EMF calculation	0: Disable 1: Enable
bit12	Back EMF auto-tuning calculation mode	0: Mode 0 1: Mode 1

Description：

If some auto-tuning fails due to specific reasons, you can turn off the corresponding step can proceed with subsequent auto-tuning steps.

bit0: Adaptive speed loop parameters

0: Disable

Disable the auto-tuning of adaptive speed loop parameter based on motor parameters.

1: Enable

Enable the auto-tuning of adaptive speed loop parameter based on motor parameters.

bit1: Adaptive current loop parameters

0: Disable

Disable the auto-tuning of adaptive current loop parameters based on motor parameters.

1: Enable

Enable the auto-tuning of adaptive current loop parameters based on motor parameters.

bit2: Non-linear auto-tuning of the drive

0: Disable

Disable non-linear auto-tuning of the drive.

	1: Enable Enable non-linear auto-tuning of the drive. bit3: Phase-to-phase deviation coefficient auto-tuning 0: Disable Disable the phase-to-phase deviation coefficient auto-tuning. 1: Enable Enable the phase-to-phase deviation coefficient auto-tuning. bit4: Auto-tuning of initial magnetic pole position of synchronous motor 0: Disable Disable the auto-tuning of initial magnetic pole position of synchronous motor. 1: Enable Enable the auto-tuning of initial magnetic pole position of synchronous motor. bit5: Auto-tuning of synchronous motor D/Q-axis inductance model 0: Disable Disable the auto-tuning of synchronous motor D/Q-axis inductance model. 1: Enable Enable the auto-tuning of synchronous motor D/Q-axis inductance model. bit6: Auto-tuning of system moment of inertia 0: Disable Disable the auto-tuning of system moment of inertia. 1: Enable Enable the auto-tuning of system moment of inertia. bit7: Auto-tuning of magnetic pole position through high-frequency injection 0: Disable Disable the auto-tuning of magnetic pole position through high-frequency injection. 1: Enable Enable the auto-tuning of magnetic pole position through high-frequency injection. bit8: Auto-tuning through DC injection 0: Disable Disable the auto-tuning through DC injection. 1: Enable Enable the auto-tuning through DC injection. bit9: Auto-tuning of no-load current vector 0: Disable Disable the auto-tuning of no-load current vector. 1: Enable Enable the auto-tuning of no-load current vector. bit10: Speed source of no-load current vector auto-tuning 0: User-defined The user setting is used as the source. 1: Set internally The source is set internally through the software. bit11: Back EMF calculation

	0: Disable The back EMF is not calculated. 1: Enable The back EMF is calculated. bit12: Back EMF auto-tuning calculation mode 0: Mode 0 The back EMF is calculated through mode 0. 1: Mode 1 The back EMF is calculated through mode 1.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-28	OFF3 stop mode	0xBC1C	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Quick stop 1: Stop at maximum capability							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-29	Stop mode during running	0xBC1D	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: OFF1 stop mode 1: OFF2 stop mode 2: OFF3 stop mode							
	Description: Mode of stop during running 0: Stop at OFF1 The stop mode is defined by OFF1 stop command. 1: Stop at OFF2 The stop mode is defined by OFF2 stop command. 2: Stop at OFF3 The stop mode is defined by OFF3 stop command.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-30	Stop mode for torque	0xBC1E	Refer to "Value"	1	Unsigned	Shutdown	General	Effective

	control				16 bit	change	user	in real time
	Value: 0: Coast to stop forcibly 1: Switch to speed control mode and then stop 2: Maintain torque control mode until zero speed and then block							
	Description: Used to select the stop mode in the torque mode. 0: Forced coast-to-stop The output is blocked directly, and the motor coasts to stop based on friction. 1: Switched to the speed mode and then stop The AC drive switches to speed mode and then decelerate to stop. 2: Torque mode held until reaching zero speed and then block Keep the torque mode and when the motor decelerates to zero speed, the output is blocked.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-31	MTPA filter time	0xBC1F	0~8000	20	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the Id filter time set by the synchronous motor MTPA. The lower the setpoint, the faster the MTPA response. Note that an excessively low setpoint may lead to torque oscillation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-32	Proportional gain adjustment coefficient	0xBC20	0.1~2.0	1.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing the setpoint improves the dynamic responsiveness and current tracking performance during DC braking. An excessively high setpoint may lead to motor oscillation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-33	Integral gain adjustment coefficient	0xBC21	0.1~2.0	1.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	Increasing the setpoint improves the dynamic responsiveness and current tracking performance during DC braking. An excessively high setpoint may lead to motor oscillation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-34	Zero-speed threshold	0xBC22	0.1%~200.0%	2.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the threshold for motor zero speed during decelerate-to-stop. An excessively low setpoint may cause the motor stop failure when the motor speed is near zero but exceeds this threshold. An excessively high setpoint may cause the motor to rotate when the drive output has been blocked. Set this parameter based on the actual stop performance.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-35	Zero-speed stop delay	0xBC23	0.00s~10.00s	0.10s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The drive blocks output when the motor actual speed keeps lower than the zero speed threshold during deceleration to stop after the period defined by this parameter elapses.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-37	Trial current for speed tracking of synchronous motor	0xBC25	5.0%~50.0%	10.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
BC-38	Minimum frequency for speed tracking of synchronous motor	0xBC26	0.0Hz~100.0Hz	0.0Hz	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: When the frequency is lower than this setpoint, the motor is at zero speed and starts directly.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-39	Angle compensation for speed tracking of synchronous motor	0xBC27	0~360	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description:							

	Used to reduce the current surge after speed tracking.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-40	Parameter auto-tuning of synchronous motor upon startup	0xBC28	0~1	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to apply quick magnetic pole auto-tuning during initial power-on.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-41	Current motor angle	0xBC29	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
BC-42	Forward torque limit 1	0xBC2A	0.0%~400.0%	150.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Digital setting of positive torque limit							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-43	Reverse torque limit 1	0xBC2B	0.0%~400.0%	150.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Digital setting of negative torque limit							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-44	Source of forward torque limit 2	0xBC2C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: 400% 0: F-connector							
	Description:							

	Defines the positive torque limit. The minimum between this value and BC-42 is used as the final value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-45	Source of reverse torque limit 2	0xBC2D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: –400% 0: F-connector							
	Description: Defines the negative torque limit. The minimum between this value and BC-43 is used as the final value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-46	Ramp (FRG) selection bit 0	0xBC2E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: 0 1: 1 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: Four groups of acceleration/deceleration time are available, which can be switched by the four states of bit0 and bit1 values of the ramp (RFG). The acceleration time indicates the time required by the AC drive to accelerate from 0 Hz to the acceleration/deceleration base frequency (F0-25). The deceleration time indicates the time required by the AC drive to decelerate from the acceleration/deceleration base frequency (F0-25) to 0 Hz. 0: Inactive 1: Active 2: Terminal function input 3~18: Select the ramp (RFG) through high/low level of DI for DI1 to DI16. Others: B connector							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BC-47	Ramp (FRG) selection bit 1	0xBC2F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: 0 1: 1 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: Four groups of acceleration/deceleration time are available, which can be switched by the four states of bit0 and bit1 values of the ramp (RFG). The acceleration time indicates the time required by the AC drive to accelerate from 0 Hz to the acceleration/deceleration base frequency (F0-25). The deceleration time indicates the time required by the AC drive to decelerate from the acceleration/deceleration base frequency (F0-25) to 0 Hz.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-50	Motor overload protection	0xBC32	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Used to select whether to enable the motor overload protection function. The drive judges whether the motor is overloaded according to the inverse time-lag curve. When the motor overload is detected, the AC drive will report an overload fault. 0: Disabled The motor overload protection function is disabled. When this parameter is set to 0, it is recommended to install a thermal relay before the motor for protection. 1: Enabled The motor overload protection function is enabled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-51	Motor overload protection gain	0xBC33	0.20~10.00	1.00	Unsigned 16 bit	Real time changes	General user	Effective in real time

	Description: The motor overload protection gain is calculated according to the percentage of time when the motor runs continuously at a certain overload point without reporting an overload fault. It is used to adjust the actual overload fault report time of the AC drive when motor overload occurs.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-52	Motor overload determine coefficient	0xBC34	50%~100%	80%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The value of motor overload determine coefficient is calculated according to the percentage of time when the motor runs continuously at a certain overload point without reporting overload determine. This function is used to give a determine signal to the control system through DO before motor overload protection. This signal is used to determine how long in advance to send the determine signal before the motor overload protection is triggered. A larger coefficient means later transmission of the determine signal. When the accumulative output current of the AC drive is higher than the value of the overload time (value Y of motor overload protection inverse time-lag curve) multiplied by BC-52 (Motor overload determine coefficient), the multi-functional DO of the AC drive outputs a motor overload determine signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-53	V/f overvoltage stall suppression gain	0xBC35	1~500	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing BC-53 improves the control effect of the bus voltage, but the output frequency will fluctuate. If the output frequency fluctuates greatly, reduce BC-53 appropriately. The function of BC-53 is the same as that of BB-24.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-54	V/f overvoltage stall suppression protection voltage	0xBC36	330.0V~800.0V	770.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the bus voltage reaches the setpoint, the drive starts overvoltage stall protection. In this case, the function of BC-54 is the same as that of BB-23.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BC-55	Protection against input phase loss/contactor close T13 power supply unit fault protection	0xBC37	Refer to "Value"	11	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Input phase loss protection	0: Disabled 1: Enabled when both software and hardware input phase loss conditions are met 2: Enabled when software input phase loss conditions are met 3: Enabled when hardware input phase loss conditions are met
Tens	Contactor close protection	0: Disabled 1: Enable
Hundreds	T13 power supply unit fault protection	0: Disable 1: Enable

Description:

This function parameter determines whether to perform input phase loss or contactor pickup protection through the ones and tens position.

After the input phase loss protection function is enabled, if the three-phase input power supply, driver board, lightning protection board, main control board, or rectifier bridge is abnormal, the AC drive will report E012.0 (input phase loss).

Ones: Input phase loss protection

0: Input phase loss inhibited

Input phase loss is not detected.

1: Protection triggered when software and hardware input phase loss conditions are met

Input phase loss protection is triggered only when the hardware and software detections meet the fault conditions.

2: Protection triggered when software input phase loss conditions are met

Input phase loss protection is triggered when software detection reaches the fault condition.

3: Protection triggered when hardware input phase

Tens: Contactor close protection selected for models of 450 kW and below; fan fault selected for models of 500 kW and above

0: Disable contactor close protection

1: Enable contactor close protection

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-56	Output phase loss protection	0xBC38	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Output phase loss protection upon power-on	0: Disabled 1: Enabled
Tens	Output phase loss protection before running	0: Disabled 1: Enabled

Description:

Ones: It determines whether to perform output phase loss protection. If protection is disabled but power output phase loss occurs, the AC drive does not detect the fault. At this moment, actual current is larger than the current displayed on the operating panel.

0: Disable

Output phase loss protection is disabled during operation.

1: Enable

Output phase loss protection is enabled during operation.

It takes about several seconds to detect output phase loss during operation. In low-frequency operations or applications where risks exist in start with phase loss, this function can be used to detect phase loss fault upon start. However, in applications where short start time is required, do not use this function.

0: Disable

The output phase loss protection is inhibited before operation.

1: Enable

The output phase loss protection is enabled before operation.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-57	Power dip ride-through	0xBC39	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: Disabled

1: Decelerate

2: Decelerate to stop

3: Suppress voltage dip

Description:

The function enables the AC drive to keep running upon an instantaneous power failure. When the system encounters a power failure, the AC drive makes the motor work in the generating state to keep the bus voltage around the "threshold for enabling power dip ride-through". This function prevents the AC drive from stopping due to input undervoltage.

0: Disabled

The power dip ride through function is disabled.

1: Decelerate, bus voltage constant control

When power failure occurs, the bus voltage stays at a value around the "voltage threshold for enabling power dip ride-through". In this mode, when the grid voltage recovers, the AC drive restores the target output frequency based on the acceleration time.

	2: Decelerate to stop When a power loss occurs, the AC drive decelerates to stop. In this mode, if the drive does not decelerate to 0 and the power supply recovers, the drive continues running. 3: Voltage dip suppression In this mode, the AC drive will not stop due to undervoltage caused by voltage dip. The voltage dip suppression time is set by BC-71.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-58	Voltage threshold for disabling power dip ride-through	0xBC3A	80%~100%	85%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the voltage threshold for disabling power dip ride-through. 100% corresponds to 540 V. This value is slightly lower than the bus voltage before power loss. Upon power loss, the bus voltage is maintained at about BC-60 (threshold for enabling power dip ride-through). When the power supply recovers, the bus voltage rises from BC-60 (threshold for enabling power dip ride-through) to BC-58 (threshold for recovery from power dip ride-through). During this period, the output frequency of the AC drive keeps decreasing until the bus voltage reaches BC-58 (threshold for recovery from power dip ride-through).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-59	Delay of voltage recovery from power dip	0xBC3B	0.0s~100.0s	0.5s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter is used to set the time required for the bus voltage to rise from BC-58 (threshold for recovering from power dip ride-through) to the voltage before power failure.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-60	Voltage threshold for enabling power dip ride-through	0xBC3C	60%~100%	80%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter is used to set the voltage level at which the bus voltage is maintained upon power failure. When power loss occurs, the bus voltage is retained at a value around BC-60 (threshold for enabling power dip ride-through).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BC-61	Protection upon load loss	0xBC3D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: If load loss protection is enabled, when output current of the AC drive falls below detection level (F9-64) for longer than time set in BC-63, the AC drive initiates load loss protection action (the action can be selected from F9-49 and the default is coast-to-stop.) Once the load recovers during protection, the drive will restore to run at the set frequency. 0: Invalid load loss protection detection is invalid. This detection will not be performed 1: Active Load loss protection detection is active.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-62	Load loss detection level	0xBC3E	0.0%~100.0%	10.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: If load loss protection is enabled, when output current of the AC drive falls below detection level (BC-62) for longer than time set in BC-63, the AC drive initiates load loss protection action (the action can be selected from F9-49 and the default is coast-to-stop.) Once the load recovers during protection, the drive will restore to run at the set frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-63	Load loss detection time	0xBC3F	0.0s~60.0s	1.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: If load loss protection is enabled, when output current of the AC drive falls below detection level (BC-62) for longer than time set in BC-63, the AC drive initiates load loss protection action (the action can be selected from F9-49 and the default is coast-to-stop.) Once the load recovers during protection, the drive will restore to run at the set frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BC-64	Overspeed detection level	0xBC40	0.0%~50.0%	20.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: During overspeed protection, when the detected motor speed exceeds F0-10 (Maximum frequency) for a percentage higher than BC-64 (Overspeed detection level) and for longer than the time set by BC-65 (Overspeed detection time), the AC drive reports a motor overspeed fault (E43.00) and acts as selected by F9-50 (Fault protection action). When BC-65 (Overspeed detection time) is set to 0.0s, the overspeed detection function is disabled. The overspeed protection is valid only in the FVC mode (BC-00 = 1).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-65	Overspeed detection time	0xBC41	0.0s~60.0s	1.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: During overspeed protection, when the detected motor speed exceeds F0-10 (Maximum frequency) for a percentage higher than BC-64 (Overspeed detection level) and for longer than the time set by BC-65 (Overspeed detection time), the AC drive reports a motor overspeed fault (E43.00) and acts as selected by F9-50 (Fault protection action). When BC-65 (Overspeed detection time) is set to 0.0s, the overspeed detection function is disabled. The overspeed protection is valid only in the FVC mode (BC-00 = 1).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-66	Detection level of excessive speed deviation	0xBC42	0.0%~50.0%	20.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed detected is higher than the set frequency and the difference is higher than BC-66 for a period longer than the time set by BC-67, the drive reports excessive speed deviation fault (E42.00) and acts accordingly as defined by F9-50. If BC-67 is set to 0.0s, the excessive speed deviation detection is disabled. The excessive speed error detection function is valid only when the FVC mode is selected for the AC drive (BC-00 = 1).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-67	Detection time of excessive speed deviation	0xBC43	0.0s~60.0s	5.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	When the motor speed detected is higher than the set frequency and the difference is higher than BC-66 for a period longer than the time set by BC-67, the drive reports excessive speed deviation fault (E42.00) and acts accordingly as defined by F9-50. If BC-67 is set to 0.0s, the excessive speed deviation detection is disabled. The excessive speed error detection function is valid only when the FVC mode is selected for the AC drive (BC-00 = 1).

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-68	Power dip ride-through gain Kp	0xBC44	1~100	40	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is valid only in the "decelerate, bus voltage constant control" (BC-57 is set to 1) mode. If undervoltage is likely to occur during power dip ride-through, increase the power dip ride-through gain and the power dip ride-through integral coefficient.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-69	Power dip ride-through integral coefficient Ki	0xBC45	1~100	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is valid only in the "decelerate to stop" (BC-57 is set to 2) mode. If undervoltage is likely to occur during power dip ride-through, increase the power dip ride-through gain and the power dip ride-through integral coefficient.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-70	Deceleration time of power dip ride-through	0xBC46	0.0s~300.0s	20.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is valid only in the "decelerate to stop" (BC-57 is set to 2) mode. When the bus voltage is lower than the value of BC-60, the AC drive decelerates to stop. The deceleration time is determined by this parameter instead of F0-18.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-71	Voltage dip suppression time	0xBC47	0.1s~600.0s	0.5s	Unsigned 16 bit	Real time changes	General user	Effective in real

								time
	Description: This function prevents AC drive stop caused by undervoltage when instantaneous power failure occurs due to voltage dip. This parameter is valid only when BC-57 is set to 3.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-72	Motor protection	0xBC48	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name
bit 0	Motor overload judgment (reserved)
bit1	Motor overtemperature detection (reserved)
bit2	PG fault detection (reserved)
bit3	Current control error detection
bit4	Motor step loss error detection
bit5	Motor stall detection
bit6	Synchronous motor demagnetization protection
bit7	SVC speed open-loop stall protection (reserved)
bit8	Reserved
bit9	Parameter setting error
bit10	Output load loss detection (reserved)
bit11	Runaway protection
bit12	Speed deviation too large (reserved)
bit13	Speed reversal protection (reserved)
bit14	Overspeed protection (reserved)

Description:

Protective function switch of the motor

Bit3: Determine whether the feedback current of the motor controller follows the reference.

Bit4: Determine whether the feedback flux of asynchronous motor flux controller follows the reference.

Bit5: Determine whether the motor is stalled.

Bit6: Determine whether the transient current of the synchronous motor exceeds the protection threshold.

Bit9: Determine whether the motor nameplate and auto-tuning parameters are wrong.

Bit11: Determine whether SVC is diverged.

The other bits are reserved.

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
BC-73	Motor stall time	0xBC49	0.0s~65.0s	2.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the operating frequency of the motor exceeds the fault frequency, the torque reaches the limit state, and the fault time is exceeded, a fault indicating the motor is stalled will be reported.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-74	Motor stall frequency	0xBC4A	0.0%~600.0%	6.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the operating frequency of the motor exceeds the fault frequency, the torque reaches the limit state, and the fault time is exceeded, a fault indicating the motor is stalled will be reported.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-75	Motor stall detection time	0xBC4B	0.0s~10.0s	0.5s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the feedback flux of asynchronous motor flux controller and the set flux exceed the detection threshold and reach the set time, a step loss fault will be reported.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-76	Stall detection threshold	0xBC4C	0.0%~100.0%	30.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the feedback flux of asynchronous motor flux controller and the set flux exceed the detection threshold and reach the set time, a step loss fault will be reported.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-77	Current control exception detection	0xBC4D	0.00s~1.00s	0.05s	Unsigned 16 bit	Real time changes	General user	Effective in real

	time							time
	Description: Used to judge whether the motor feedback current follows the set deviation threshold. If the error exceeds the threshold and reaches the set time, E093.3 will be reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-78	Current control exception detection threshold	0xBC4E	0.0%~200.0%	25.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to judge whether the motor feedback current follows the set deviation threshold. If the error exceeds the threshold and reaches the set time, E093.3 will be reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-79	Synchronous motor overcurrent threshold	0xBC4F	0.0%~500.0%	300.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: A fault will be reported when the phase current of the motor exceeds the threshold (based on the rated motor current).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-81	Speed deviation detection	0xBC51	0~1	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to judge whether the motor feedback speed follows the setting. If the deviation keeps exceeding the threshold (F9-69) after the time defined by F9-70 elapses, a fault will be reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-82	Skip frequency 1	0xBC52	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The frequency jump function enables the AC drive to avoid mechanical resonance point of the load. This parameter specifies the first jump frequency. If it is set to 0, the first frequency jump function is disabled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-83	Skip frequency 2	0xBC53	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The frequency jump function enables the AC drive to avoid mechanical resonance point of the load. This parameter defines the second jump frequency. If it is set to 0, the second jump frequency is canceled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-84	Skip frequency 3	0xBC54	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The frequency jump function enables the AC drive to avoid mechanical resonance point of the load. This parameter defines the third jump frequency. If it is set to 0, the third jump frequency is canceled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-85	Skip frequency 4	0xBC55	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The frequency jump function enables the AC drive to avoid mechanical resonance point of the load. This parameter defines the fourth jump frequency. If it is set to 0, the fourth jump frequency is canceled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-86	Skip frequency band	0xBC56	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the running frequency approaches the jump frequency during acceleration, the AC drive runs at the current frequency for a period and then skips over the jump frequency. The jump range is twice the value of BC-86 (jump frequency amplitude). When the running frequency approaches the jump frequency during deceleration, the AC drive runs at the current frequency for a period and then skips over the jump frequency. The jump range is twice the value of BC-86.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
BC-87	Source of frequency upper limit	0xBC57	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: BC-88 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication reference Others: F connector							
	Description: 0: BC-88 (Frequency upper limit) The frequency upper limit is set by BC-88. 1: AI1 The frequency upper limit is input by current or voltage signal through the AI1. The frequency is calculated according to the preset AI curve. 2: AI2 The frequency upper limit is input by current or voltage signal through the AI2. The frequency is calculated according to the preset AI curve. 3: AI3 The frequency upper limit is input by current or voltage signal through the AI3. The frequency is calculated according to the preset AI curve. 4: Pulse reference (DI5) The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the maximum frequency. 5: Communication The frequency upper limit is set through communication. Others: F connector The frequency upper limit is set through the connector. Read the connector value through setting the parameter No. of a float connector. The value being read is used as the frequency upper limit. It is used for extension of common sources.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-88	Frequency upper limit	0xBC58	BC-90~F0-10	50.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the maximum operating frequency of motors.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BC-89	Frequency upper limit offset	0xBC59	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the offset of the frequency upper limit. It is used to adjust the output frequency upon minimum frequency reference signal when the frequency is set by an external analog signal (voltage or current).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-90	Frequency lower limit	0xBC5A	0.00Hz~BC-88	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the minimum operating frequency of motors.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-91	Speed/Torque control mode	0xBC5B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Speed control 1: Torque control							
	Description: Control target selection: Speed control and torque control 0: Speed control The AC drive controls the motor speed. 1: Torque control The AC drive controls the motor output torque and does not control the speed.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BC-98	DC injection braking current rise time	0xBC62	0.00s~100.00s	0.00s	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the time for braking current to rise to the target current during DC braking.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
BC-99	DC braking superposition frequency	0xBC63	0.00Hz~100.00Hz	0.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used for start of synchronous motor without auto-tuning.							

BD Motor Observation and Vector Parameters (2) of Motor 3

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-00	Asynchronous motor FVC model switchover frequency	0xBD00	0%~1000%	20%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
BD-01	Asynchronous motor FVC model switchover hysteresis frequency	0xBD01	10%~50%	20%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
BD-02	Asynchronous motor FVC observer filter time	0xBD02	5ms~100ms	15ms	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
BD-03	Asynchronous motor FVC current model mode	0xBD03	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
BD-04	Asynchronous motor FVC pre-excitation output observation angle mode	0xBD04	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-05	Asynchronous motor SVC model switchover frequency	0xBD05	10%~20%	15%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
BD-06	Defines the DC starting frequency of asynchronous motor	0xBD06	0.1%~20.0%	0.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	in SVC mode.							
BD-07	Asynchronous motor SVC observer gain 1	0xBD07	10%~500%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-08	Asynchronous motor SVC observer gain 2	0xBD08	10%~100%	20%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-09	Asynchronous motor SVC observer mode	0xBD09	0~3	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-10	Asynchronous motor SVC pre-excitation mode	0xBD0A	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
BD-11	Asynchronous motor SVC speed tracking mode	0xBD0B	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
BD-12	Defines the asynchronous motor high-speed model gain.	0xBD0C	0.0~3.0	0.5	Unsigned 16 bit	Shutdown change	General user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-14	Synchronous motor 1 model control	0xBD0E	Refer to "Value"	5	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Bit / Name bit 0 / Low speed processing bit1 / Low speed processing 1 bit2 / Online auto-tuning of resistance bit3 / Online auto-tuning of back EMF bit4 / KS							
	Description:							

	Synchronous motor 1 model control Bit0: Low-speed processing Bit1: Low-speed processing 1 Bit2: Online auto-tuning of resistance enabled Bit3: Online auto-tuning of back EMF enabled bit4: KS

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-15	Synchronous motor model K1	0xBD0F	10Hz~3000Hz	200Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-16	Synchronous motor model K1Max	0xBD10	100%~6000%	3000%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-17	Synchronous motor model KsMin	0xBD11	0.0~4.0	0.3	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-18	Synchronous motor model Kspeed	0xBD12	50Hz~2000Hz	400Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-19	Synchronous motor frequency filter time constant	0xBD13	2ms~100ms	10ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-20	Frequency upper limit of synchronous motor Rs online auto-tuning	0xBD14	1.0%~20.0%	3.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-21	Synchronous motor model Kr	0xBD15	0~50	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-22	Synchronous motor model Kr1	0xBD16	0%~50%	5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-23	Synchronous motor low-speed D axis	0xBD17	0%~100%	20%	Unsigned 16 bit	Real time changes	Expert user	Effective in real

	injection current							time
BD-24	Synchronous motor model LowFreqTime1	0xBD18	0~500	50	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-27	Frequency lower limit of back EMF online auto-tuning	0xBD1B	10%~100%	25%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-28	Synchronous motor model LowFreq	0xBD1C	0.0%~2.0%	0.3%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-29	Synchronous motor model LowFreqTime	0xBD1D	0~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-30	Percentage of pole auto-tuning current	0xBD1E	50%~200%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the target current of magnetic pole position auto-tuning of synchronous motor. If the magnetic pole position auto-tuning noise is too large, reduce this current. Note that excessively low current may cause magnetic pole position auto-tuning fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-31	Percentage of high frequency response current	0xBD1F	0%~100%	25%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-32	Percentage of HFI and SVC switching frequency	0xBD20	0%~30%	10%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-33	Observer parameter	0xBD21	10~200	100	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-34	Speed filter cut-off frequency	0xBD22	1Hz~200Hz	10Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real

								time
BD-35	Carrier frequency during NS auto-tuning	0xBD23	2.00Hz~16.00Hz	8.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-36	Automatic calculation of NS auto-tuning voltage	0xBD24	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Enabled							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-37	Percentage of NS auto-tuning voltage set manually	0xBD25	0%~100%	10%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-38	Duration of HFI stage 1	0xBD26	50ms~500ms	150ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BD-40	Speed loop proportional gain 1	0xBD28	1~300	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This is the PID control parameter Kp for the speed loop, which affects the response speed of the motor speed. A larger Kp value indicates higher sensitivity and more intensive tuning. A smaller Kp value indicates lower sensitivity and less intensive tuning. The low-speed speed loop Kp is effective at low speed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-41	Speed loop integral time 1	0xBD29	0.01s~10.00s	0.50s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The reciprocal of the speed loop integral time constant is the integral gain. The speed loop integral time constant affects the steady-state speed error of the motor and the stability of the speed loop system. If the speed loop integral time							

	constant increases, the speed loop response slows down. For quicker response, a larger speed loop proportional gain is required. The low speed loop Ti is used at low speed.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-42	Switchover frequency 1	0xBD2A	0.00Hz~BD-45	5.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Speed loop PI parameters are divided into low-speed and high-speed groups. When the running frequency is lower than BD-42 (Switching frequency 1), the speed loop PI is adjusted by BD-40 and BD-41. When the running frequency is higher than BD-45 (Switching frequency 2), the speed loop PI is adjusted by BD-43 and BD-44. If the running frequency is between switchover frequency 1 and switchover frequency 2, the speed loop PI parameters switch linearly between the two groups of PI parameters. The parameter value must be lower than BD-45 (Switching frequency 2).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-43	Speed loop proportional gain 2	0xBD2B	1~300	20	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The greater the Kp value, the higher the adjustment sensitivity and the adjustment strength. The smaller the Kp value, the lower the adjustment sensitivity and the adjustment strength.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-44	Speed loop integral time 2	0xBD2C	0.01s~10.00s	1.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The speed loop integral time constant affects the steady-state speed error of the motor and the stability of the speed loop system. Increasing the speed loop integral time constant slows down the response of the speed loop. In this case, increase the speed loop proportional gain to shorten the response time of the speed loop.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-45	Switchover frequency 2	0xBD2D	BD-42~F0-10	10.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	Speed loop PI parameters are divided into low-speed and high-speed groups. When the running frequency is lower than BD-42 (Switching frequency 1), the speed loop PI is adjusted by BD-40 and BD-41. When the running frequency is higher than BD-45 (Switching frequency 2), the speed loop PI is adjusted by BD-43 and BD-44. If the running frequency is between switchover frequency 1 and switchover frequency 2, the speed loop PI parameters switch linearly between the two groups of PI parameters. The parameter value must be lower than BD-45 (Switching frequency 2).

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-46	Vector control slip gain	0xBD2E	50%~200%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: In the SVC mode, this parameter is used to adjust the speed stability accuracy of the motor. For example, when the running frequency of the motor is lower than the output frequency of the AC drive, you can increase the value of this parameter. In the FVC mode, this parameter is used to adjust the output current of the AC drive with the same load. For example, if the load capacity of a high-power AC drive is weak, decrease the value of this parameter gradually. No adjustment is required under normal circumstances.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-47	Speed feedback filter time in SVC mode	0xBD2F	0.000s~0.100s	0.015s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: In the FVC mode (BD-59 = 1), the speed loop feedback filter time is effective. Adjusting the parameter can improve the motor stability. Increasing the value of this parameter enhances motor stability but slows down the dynamic response speed. Decreasing the value of this parameter speeds up dynamic response. Note that an excessively low value will lead to motor oscillation. The default value of this parameter applies to most of applications.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-49	Torque upper limit source in speed control mode (motoring)	0xBD31	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: BD-50 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication setting 6: Min. (AI1, AI2) 7: Max. (AI1, AI2) Others: F connector							
	Description:							

	Defines the torque upper limit source in speed control mode (motoring). 0: BD-50 The torque upper limit in speed control is set by BD-50 (Digital setting of torque limit in speed control). 1: AI1 The torque upper limit is input by current or voltage signal through the AI1. The torque is calculated according to the preset AI curve. 2: AI2 The torque upper limit is input by current or voltage signal through the AI2. The torque is calculated according to the preset AI curve. 3: AI3 The torque upper limit is input by current or voltage signal through the AI3. The torque is calculated according to the preset AI curve. 4: Pulse reference (DI5) The torque upper limit in speed control mode is set through the DI5. The torque is calculated based on the curve of the relationship between the pulse frequency and running frequency. 5: Communication The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment. 6: Min. (AI1, AI2) The torque upper limit in speed control mode is the lower value between AI1 and AI2 inputs. 7: Max. (AI1, AI2) The torque upper limit in speed control mode is the higher value between AI1 and AI2 inputs. Others: F connector Read the connector value through setting the parameter No. of a float connector. The value being read is used as the motoring torque upper limit reference in speed control. It is used for extension of common sources. The full range of options other than 0 is the value of BD-50.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-50	Torque upper limit in speed control mode	0xBD32	0.0%~600.0%	150.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Digital setting of torque limit in speed control mode							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-51	Torque upper limit source in speed control mode	0xBD33	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

	(generating)							

Value:

0: Digital setting (BD-50)
1: AI1
2: AI2
3: AI3
4: Pulse reference (DI5)
5: Communication
6: Min. (AI1, AI2)
7: Max. (AI1, AI2)
8: Digital setting (BD-52)
Others: F connector

Description:

Defines the torque upper limit source in speed control (generating).

0: BD-50

The torque upper limit in speed control is set by F2-10 (Digital setting of torque limit in speed control).

1: AI1

The torque upper limit is input by current or voltage signal through the AI1. The torque is calculated according to the preset AI curve.

2: AI2

The torque upper limit is input by current or voltage signal through the AI2. The torque is calculated according to the preset AI curve.

3: AI3

The torque upper limit is input by current or voltage signal through the AI3. The torque is calculated according to the preset AI curve.

4: Pulse reference (DI5)

The torque upper limit in speed control mode is set through the DI5. The torque is calculated based on the curve of the relationship between the pulse frequency and running frequency.

5: Communication

The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment.

6: Min. (AI1, AI2)

The torque upper limit in speed control mode is the lower value between AI1 and AI2 inputs.

7: Max. (AI1, AI2)

The torque upper limit in speed control mode is the higher value between AI1 and AI2 inputs.

8: Digital setting (BD-52)

The torque upper limit in speed control mode is set by BD-52 (digital setting of torque upper limit in speed control).

Others: F connector

Read the connector value through setting the parameter No. of a float connector. The value being read is used as the generating torque upper limit reference in speed control. It is used for extension of common sources.

The full range of options other than 0 and 8 is the value of BD-52.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-52	Torque upper limit in	0xBD34	0.0%~600.0%	150.0%	Unsigned	Real time	General	Effective

	speed control mode (generating)				16 bit	changes	user	in real time
	Description: Digital setting of torque upper limit in speed control mode							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-53	Synchronous motor current loop mode	0xBD35	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: No field weakening 1: Automatic adjustment mode 2: Calculation+Automatic adjustment 3: Synchronous motor normal mode 4: Asynchronous motor normal mode							
	Description: 0: No field weakening In this mode, the max. motor speed is related to the bus voltage of the drive. The advantage is that the output current is low under the same load. The disadvantage is that the operating frequency cannot reach the set frequency. If high motor speed is needed, do not use this function. 1: Auto-tuning mode This mode is simple and reliable. In applications requiring quick field weakening, increase the value of BD-54 properly. Note that setting BD-54 to an excessively high value may cause unstable current. 2: Calculation+Automatic adjustment This mode feature quick speed and applies to applications where the automatic adjustment mode cannot meet demands. 3: Synchronous motor normal mode This mode applies to high-speed operation of synchronous motor. 4: Synchronous motor normal mode This mode applies to field weakening operation of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-54	Field weakening gain	0xBD36	0.1~200.0	3.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing the setpoint improves the dynamic response, but an excessively high setpoint may cause current oscillation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-57	Generating power	0xBD39	Refer to "Value"	0	Unsigned	Real time	General	Effective

	limiting				16 bit	changes	user	in real time
	Value: 0: Disabled 1: Enabled in the whole process 2: Enabled at constant speed 3: Enabled during deceleration							
	Description: 0: Inactive Generating power limit inactive 1: Active throughout the process Generating power limit activated throughout the process 2: Active during operating at constant speed Generating power limit activated during operation at constant speed 3: Active during decelerated operation Generating power limit activated during decelerated operation							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-58	Generating power upper limit	0xBD3A	0.0%~200.0%	20.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: BD-58 is a percentage to the rated motor power. If overvoltage still occurs after you set the generating power limit, decrease the value of BD-58.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-59	Motor 3 control mode	0xBD3B	Refer to "Value"	2	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: SVC 1: FVC 2: V/f							
	Description: 0: Sensorless vector control (SVC) Indicates open-loop vector control, which is applicable to high-performance control applications. In this case, one AC drive can drive only one motor. This mode applies to such loads as machine tools, centrifuges, wire drawing machines, and							

	injection molding machines. 1: Feedback vector control (FVC) Indicates closed-loop vector control. The motor must be configured with an encoder and the AC drive provides the PG card (optional) matching the encoder type. This mode is applicable to high-accuracy speed control or torque control applications, where one AC drive can drive only one motor. It is used for loads such as high-speed paper-making machinery, hoisting machinery, and elevators. 2: V/f control (open loop speed control) The V/f control mode is applicable to applications that require undemanding control performance on loads, such as fans and pumps. If one AC drive is used to control multiple motors, only the V/f control mode can be used.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-60	Initial position angle detection current of synchronous motor	0xBD3C	50~180	80	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The lower the current, the lower the noise generated during detection. Note that excessively low current may lead to inaccurate detection. Do not modify the default value in FVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-61	Initial position angle detection of synchronous motor	0xBD3D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Detected upon running 1: Not detected 2: Detected upon initial running after power-on							
	Description: The initial position angle detection can be used to prevent reverse run during start, which may result in noise. Set BD-61 in applications where the motor rotor position changes after stop and reverse run is inhibited upon start. In other applications, it can be set to 1 or 2. 0: Detected every time upon operation 1: Not detected 2: Detected upon initial operation after power-on							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-63	Salient pole rate adjustment gain of	0xBD3F	0.20~3.00	1.00	Unsigned 16 bit	Real time changes	General user	Effective in real

	synchronous motor							time
	Description: Set BD-64 to 1. If the output current does not decrease or even increase under the same load, adjust BD-63. When the load does not change, adjust BD-63 until the minimum output current is reached.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-64	Maximum torque-to-current ratio control of synchronous motor	0xBD40	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: When the salient-pole motor is switched on, the output current decreases under the same load. 0: Disable 1: Enable							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-65	Z signal correction	0xBD41	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Activated when ABZ encoder of the synchronous motor is used in FVC mode. Pulse loss or excessive pulses may be occur on the incremental ABZ encoder during operation due to interference, which may lead to orientation error of the synchronous motor, insufficient force output, or even runaway fault. After this function is enabled, the drive corrects the orientation angle based on Z signal to ensure reliability of long-term operation. 0: OFF Turn off Z signal correction. 1: ON Turn on Z signal correction.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-67	Low speed carrier	0xBD43	0.5kHz~F0-15	2.0kHz	Unsigned	Real time	General	Effective

	frequency				16 bit	changes	user	in real time
	Description: This parameter is used to set the carrier frequency of the motor at low speed to lower the motor noise in the V/f or FVC mode. The carrier frequency is the smaller one between F0-15 and BD-67. When the value of BD-67 is greater than or equal to 4 kHz, the value of BD-67 is active. When the value of BD-67 is lower than 4 kHz, 4 kHz is used.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-68	Position lock	0xBD44	0~1	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: 0: OFF 1: ON							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-69	Switchover frequency	0xBD45	0.00Hz~BD-42	0.30Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the position lock switchover frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-70	Position lock speed loop proportional gain	0xBD46	1~100	10	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop proportional gain when the operating frequency is lower than the position lock switchover frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-71	Position lock speed loop integral time	0xBD47	0.01s~10.00s	0.50s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	Defines the speed loop integral time when the operating frequency is lower than the position lock switchover frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-74	Motor tuning-free mode	0xBD4A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Off 1: Enabled before initial operation after power-on 2: Enabled before operation							
	Description: Used to auto-tune synchronous motor parameters before start (including stator resistance, magnetic pole position, D/Q-axis inductance and saturation model). The current starting time increases after this function is enabled. 0: Off 1: Enabled before initial operation after power-on 2: Enabled before operation							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-75	Encoder direction auto-tuning and pre-positioning current	0xBD4B	0.0%~800.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the control current for encoder direction auto-tuning and pre-positioning auto-tuning, which is based on the rated motor current. The active current value is the set current value and the minimum value in the rated current of the drive.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-76	Initial position compensation angle	0xBD4C	0.0~359.9	0.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-80	Speed loop command word	0xBD50	Refer to "Value"	19	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value:							

Bit	Name	Value
bit 0	Speed loop	0: Disabled 1: Enabled
bit1	Integration mode	0: Conventional integration 1: Position integration
bit2	Acceleration torque	0: Disabled 1: Enabled
bit3	Acceleration source	0: Function transfer torque 1: Automatic calculation 2: Function transfer acceleration
bit5	Anti-load disturbance	0: Disabled 1: Enabled

Description:

Bit0: The speed loop can be switched off through this parameter in specific process applications.

0: Disable

1: Enable

Bit1: Speed loop integral mode selection

0: Traditional integral

2: Position-type integral

Bit2: Acceleration feedforward enable switch, which can be used to improve speed following performance when speed reference changes

0: Disable

1: Enable

Bit3: Acceleration feedforward torque source (0: Torque reference superimposed with the torque transmitted by B8-85; 1: Torque needed by acceleration calculated automatically through speed reference change and inertia; 2: Torque needed by acceleration calculated automatically through the acceleration transmitted by B9-00 and motor inertia)

0: Torque superposition

1: Automatic calculation

1: Acceleration superposition

Bit5: Cancel the impact on the motor speed during sudden load change to improve dynamic speed performance

0: Disable

1: Enable

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-81	Motor stall fast integral cancel coefficient	0xBD51	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

When motor is stalled, output is still generated in the integral term of speed loop after the speed reference changes from zero to non-zero and back to zero again, leading to continuous torque output during zero speed reference. When this

	coefficient is a non-zero value, the speed loop integral term output will be decreased until this target value is reached.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-82	Integral torque	0xBD52	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Defines the forced value of integral term in speed loop forced integral mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-83	Speed controller frequency window size	0xBD53	0.00Hz~10.00Hz	0.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: In the master-slave mode, when this drive is used as a slave in the torque mode, this frequency window is active.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-84	Current filter time for torque reference	0xBD54	0.0ms~100.0ms	0.0ms	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the filter time when the speed loop outputs the set torque current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-85	Acceleration torque	0xBD55	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: When the acceleration feedforward torque source is set to 0, this parameter is used to set the acceleration torque. 0: Inactive							

	1: AI1 2: AI2 3: AI3 4: PULSE setting 5: Communication setting 6: Multi-speed reference 7: Motorized potentiometer 8: PID Others: F connector

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-87	Reference model bandwidth	0xBD57	0.00Hz~300.00Hz	0.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the speed filter time upon acceleration feedforward.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-88	Torque feedforward coefficient	0xBD58	0.0%~6553.5%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is used to adjust the feedforward torque. With the acceleration feedforward enabled, if the feedback speed does not follow the reference during acceleration, increase this parameter value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-89	Vector control reference frequency filter time	0xBD59	0.0ms~100.0ms	0.0ms	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
BD-90	Vector control feedback frequency filter time	0xBD5A	0.0ms~100.0ms	0.0ms	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
BD-91	Load observation bandwidth	0xBD5B	0.00Hz~300.00Hz	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	Used to set the load observer bandwidth.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-92	Load observation coefficient	0xBD5C	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to adjust the load observer torque of compensation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-93	Pseudo integral coefficient	0xBD5D	0.000~10.000	1.000	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust PDFF intensity.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-94	Torque coefficient enable	0xBD5E	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: When the torque coefficient is enabled, the actual flux is taken into account during calculating torque output, which is the actual torque. When the torque coefficient is not enabled, the displayed output torque and torque current is calculated based on 1:1, without torque coefficient conversion.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-95	Low-frequency Kp switchover selection	0xBD5F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: 1 7: DI5 8: DI6 14: DI12 15: DI13							

	2：Terminal function input	9：DI7	16：DI14
	3：DI1	10：DI8	17：DI15
	4：DI2	11：DI9	18：DI16
	5：DI3	12：DI10	Others：B connector
	6：DI4	13：DI11	Note：When 3-18DI is used for switchover selection, the DI high level is active and low-frequency Kp switchover will be performed.
	Description： When enabled, the proportional term of the speed loop is modified by AA-53. 0: 0 1: 1 2: Terminal function input 3~18: DI1 to DI16 controlled by high/low level of DI terminals Others: B connector		

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-96	Center frequency of notch filter 1	0xBD60	0.0~4000.0	4000.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： Defines the torque current notch. When it is set to a non-zero value, the notch 1 is activated.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-97	Center frequency of notch filter 2	0xBD61	0.0~4000.0	4000.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： Defines the torque current notch. When it is set to a non-zero value, the notch 2 is activated.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-98	Integral setting control word	0xBD62	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value： 0：Disabled 1： Enabled							

	0： B-connector
	Description： After enabled, the integral term of speed loop is set by the channel in BD-99 forcibly. 0: Inactive 1: Set Others: B connector

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BD-99	Integral reference source	0xBD63	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value：

0： Digital setting	4： Pulse reference	7： Motor-driven potentiometer
1： AI1	5： Communication	8： PID
2： AI2	6： Multi-reference	0： F-connector
3： AI3		

Description：

Forced value source of speed loop integral term

0: Digital setting

BD-82 used as the source

1: AI1

The frequency reference is input by current or voltage signal through the AI1. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4.

2: AI2

The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4.

3: AI3

The frequency reference is input by voltage signal through AI3. The frequency is calculated according to the AI curve. AI curves can be set in parameter group F4.

4: Pulse reference (DI5)

The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency (F4-28 to F4-31).

5: Communication

The main frequency is set through communication. This mode is applicable to applications requiring remote control or centralized control of multiple devices. In this mode, you can input the frequency through remote communication. In this case, the AC drive must be installed with a communication card for communicating with the host controller.

The communication address is 0x1000, indicating the percentage reference. The value ranges from -10000 to 10000. 0 represents 0%, 10000 represents 100%, and -10000 represents -100%.

Note: Communication settings are generally used to write the frequency. It is recommended to select a connector for other parameter source selection.

	6: Multi-reference In the multi-reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals (assigned with functions 12 to 15) can provide 16 states, corresponding to 16 frequencies (set by FC-00 to FC-15). 7: Motorized potentiometer The real-time target speed is set by the motorized potentiometer module output. 8: PID PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control. Set PID-related parameters in group FA. Others: F connector A parameter No. is set for a float connector, and the value of the connector is read as the auxiliary frequency reference. It is used for extension of common sources.

BE Motor Vector Parameters (3) of Motor 3

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-00	Externally transferred acceleration	0xBE00	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: When a non-zero value is selected, this channel is used to set the acceleration value. 0: Inactive 1: AI1 The frequency is input by voltage signal through the AI1. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4. 2: AI2 The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4. 3: AI3 The frequency reference is input by voltage signal through AI3. The frequency is calculated according to the AI curve. AI							

	curves can be set in parameter group F4. 4: Pulse reference (DI5) The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency (F4-28 to F4-31). 5: Communication The main frequency is set through communication. This mode is applicable to applications requiring remote control or centralized control of multiple devices. In this mode, you can input the frequency through remote communication. In this case, the AC drive must be installed with a communication card for communicating with the host controller. The communication address is 0x1000, indicating the percentage reference. The value ranges from -10000 to 10000. 0 represents 0%, 10000 represents 100%, and -10000 represents -100%. Note: Communication settings are generally used to write the frequency. It is recommended to select a connector for other parameter source selection. 6: Multi-reference In the multi-reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals (assigned with functions 12 to 15) can provide 16 states, corresponding to 16 frequencies (set by FC-00 to FC-15). 7: Motorized potentiometer The real-time target speed is set by the motorized potentiometer module output. 8: PID PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control. Set PID-related parameters in group FA. Others: F connector A parameter No. is set for a float connector, and the value of the connector is read as the auxiliary frequency reference. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-01	Current deviation threshold	0xBE01	0.3~2.0	0.5	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: This parameter is active only in ImCsr2 mode. When the feedback excitation current exceeds the set excitation current plus the threshold, the low-speed loop gain will no longer be zero.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-02	Current filter cycle setting	0xBE02	0~100	1	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time

	Description: Used to set the filter time set for the current loop, which is a multiplier relative to the execution time.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-03	Overturning torque limiting coefficient	0xBE03	0.0%~400.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust the motor torque limit. An excessively high setpoint may cause the motor to operate in the breakdown torque area, which means low torque output at high current. An excessively low setpoint may compromise the max. torque output capacity of the motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-04	Motoring power limiting coefficient	0xBE04	0.0%~400.0%	400.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
BE-05	Generating power limiting coefficient	0xBE05	0.0%~400.0%	400.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
BE-06	Overspeed limiting enable	0xBE06	0~1	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to activate the overspeed controller in torque mode. 0: Inactive 1: Active							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-07	Sine wave frequency of bandwidth test	0xBE07	0Hz~1000Hz	0Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When testing the bandwidth in the speed loop ,the set speed is superimposed with the sine signal frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BE-08	Sine wave amplitude of bandwidth test	0xBE08	0%~100%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When testing the bandwidth in the speed loop, the set speed is superimposed with the sine signal amplitude.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-09	Bandwidth test enable	0xBE09	0~4	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When testing the bandwidth in the speed loop, the set speed is superimposed with the sine reference.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-10	Torque coefficient adjustment value	0xBE0A	0.0%~200.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to correct the coefficient of reluctance torque term of permanent magnet synchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-11	Speed loop parameter calculation mode	0xBE0B	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: New solution 1: Compatible solution							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-12	Speed loop proportional gain in FVC mode	0xBE0C	0.00Hz~100.00Hz	8.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop proportional gain in FVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-13	Speed loop integral time in FVC mode	0xBE0D	0.000s~20.000s	0.080s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop integral time in FVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-14	Speed loop proportional gain in SVC mode	0xBE0E	0.00Hz~100.00Hz	5.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop proportional gain in SVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-15	Speed loop integral time in SVC mode	0xBE0F	0.000s~20.000s	0.127s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop integral time in FVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-16	Low frequency proportional correction coefficient	0xBE10	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Activated when BE-11 is set to 0. When the speed is lower than BD-42, the speed loop parameter is adjusted through this parameter.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-17	Low frequency integral correction coefficient	0xBE11	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	Activated when BE-11 is set to 0. When the speed is lower than BD-42, the speed loop parameter is adjusted through this parameter.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-18	Speed loop adaption factor	0xBE12	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

0: Inactive
1: AI1
2: AI2
3: AI3
4: PULSE setting
5: Communication setting
6: Multi-speed reference
7: Motorized potentiometer
8: PID
0: F connector

Description:

When the speed loop auto-tuning factor is not 0, the speed loop auto-tuning factor is set through this channel.

0: Inactive

1: AI1

The frequency is input by voltage signal through the AI1. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4.

2: AI2

The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4.

3: AI3

The frequency reference is input by voltage signal through AI3. The frequency is calculated according to the AI curve. AI curves can be set in parameter group F4.

4: Pulse reference (DI5)

The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency (F4-28 to F4-31).

5: Communication

The main frequency is set through communication. This mode is applicable to applications requiring remote control or centralized control of multiple devices. In this mode, you can input the frequency through remote communication. In this case, the AC drive must be installed with a communication card for communicating with the host controller.

The communication address is 0x1000, indicating the percentage reference. The value ranges from -10000 to 10000. 0 represents 0%, 10000 represents 100%, and -10000 represents -100%.

Note: Communication settings are generally used to write the frequency. It is recommended to select a connector for other parameter source selection.

6: Multi-reference

In the multi-reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals (assigned with functions 12 to 15) can provide 16 states, corresponding to 16 frequencies (set by FC-00 to FC-15).

7: Motorized potentiometer

	The real-time target speed is set by the motorized potentiometer module output. 8: PID PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control. Set PID-related parameters in group FA. Others: F connector A parameter No. is set for a float connector, and the value of the connector is read as the auxiliary frequency reference. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-19	Speed loop adaption switchover lower limit	0xBE13	0.000~10.000	0.400	Unsigned 16 bit	Real time changes	General user	Effective in real time
BE-20	Speed loop adaption switchover upper limit	0xBE14	0.000~10.000	1.000	Unsigned 16 bit	Real time changes	General user	Effective in real time
BE-21	Speed loop adaption correction upper limit	0xBE15	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the upper limit of speed loop adaptive correction.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-22	Speed loop adaption correction lower limit	0xBE16	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the lower limit of speed loop adaptive correction.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-23	Flux adaptation enable	0xBE17	0~1	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description:							

	When this function is enabled, the speed loop parameter decreases with the flux reduction in the field weakening range, which prevents speed loop oscillation in the field weakening range.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-24	Overspeed controller correction coefficient	0xBE18	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the adjustment value of torque reference when the speed limit is exceeded in the torque mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-25	Vector overvoltage/undervoltage suppression control command word	0xBE19	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
bit 0	Under voltage suppression	0: Disable 1: Enable
bit1	Overvoltage suppression	0: Disable 1: Enable
bit2	Automatic calculation of overvoltage/Under voltage suppression threshold	0: Disable 1: Enable
bit3	Overvoltage/Under voltage suppression integral action	0: Disable 1: Enable

Description:

The command word takes effect in vector control mode.

Bit0: Undervoltage suppression

Bit1: Overvoltage suppression

Bit2: Automatic calculation of overvoltage/undervoltage suppression threshold (In automatic calculation mode, the overvoltage suppression threshold is overvoltage threshold minus 70 V, the undervoltage suppression threshold is undervoltage threshold plus 50 V.)

Bit3: Overvoltage/Undervoltage suppression integral action

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-26	Bus capacitance ratio	0xBE1A	50.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real

								time
	Description: Used to adjust the overvoltage/undervoltage suppression PI parameter in the vector mode. Set this parameter based on the number of drives that share the same common bus in actual application.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-27	Vector undervoltage suppression exit from hysteresis frequency	0xBE1B	0.00Hz~10.00Hz	3.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When the operating frequency is higher than the minimum frequency plus this frequency, the undervoltage suppression state applies.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-28	Speed threshold for vector undervoltage suppression failure	0xBE1C	0.00Hz~20.00Hz	2.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When vector undervoltage suppression reaches this frequency, the undervoltage suppression state will be canceled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-29	Dynamic adjustment coefficient of vector overvoltage/undervoltage suppression	0xBE1D	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the proportional coefficient adjustment term of overvoltage/undervoltage suppression.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-30	Activation voltage of vector undervoltage suppression	0xBE1E	320.0V~540.0V	430.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
BE-31	Activation voltage of vector overvoltage suppression	0xBE1F	650.0V~800.0V	770.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-32	Flux linkage control command word	0xBE20	Refer to "Value"	18741	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
bit 0	Output voltage limit calculation filter mode	0: Symmetric filter 1: Asymmetric filter
bit1	Inverse ratio curve calculation mode of asynchronous motor	0: Inverse ratio synchronous frequency reduced 1: Inverse ratio speed reduced
bit2	Linkage feedforward of inverse ratio speed calculation	0: Disable 1: Enable
bit3	Reserved	
bit4	Reserved	
bit5	Field weakening through adjustment	0: Disable 1: Field weakening through adjustment
bit6	Linkage derivative feedforward	0: Disable 1: Enable
bit7	Energy-saving control	0: Disable 1: Enable
bit8	Flux closed-loop of asynchronous motor	0: Disable 1: Enable
bit9	Reserved	
bit10	Reserved	
bit11	Asynchronous motor pre-excitation mode selection	0: Pre-excitation based on time
bit12	Pre-excitation current of asynchronous motor	0: Pre-excitation based on the set current 1: Pre-excitation current being the max. current allowed by the platform
bit13	Reserved	
bit14	Voltage outer loop mode	0: Voltage outer loop mode 0 1: Voltage outer loop mode 1

Description:

Bit00: Output voltage limit calculation filter mode

0 corresponds to first-order filter. 1 corresponds to bus voltage rise filter.

Bit01: Inverse ratio curve calculation mode of asynchronous motor

To prevent saturation of field weakening range, select 1 to lower the turnover frequency. The setting is active when bit2 is set to 1.

	Bit02: Inverse ratio speed calculation linkage feedforward When bit02 is set to 1, the inverse ratio speed reduces when the output frequency exceeds the turnover frequency, thus improve the dynamic responsiveness during acceleration. Bit05: Field weakening through adjustment When bit05 is set to 1, the voltage outer loop adjustment is active. Bit07: Energy-saving control When the asynchronous motor is active, bit07 can be used to reduce the copper loss at light load during vector control. Bit11: Pre-excitation mode of asynchronous motor 0: Pre-excitation done within the set time 1: Fixed current outputted during pre-excitation, exit when linkage reaching the setpoint Bit12: Asynchronous motor pre-excitation current 0: Pre-excitation based on the current defined by AB-51 1: Pre-excitation based on the maximum current allowed by the drive, the pre-excitation time can be reduced Bit14: Voltage outer loop mode 0: Synchronous motor mode 1: Asynchronous motor mode

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-33	Voltage margin	0xBE21	1%~50%	3%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Decreasing the setpoint can improve voltage utilization. The current is smaller under the same load in the field weakening region. However, an excessively small setpoint will affect dynamic performance.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-34	Output voltage upper limit margin for auto adjustment of field weakening	0xBE22	1%~20%	3%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When BD-53 is set to 2, changing the setpoint affects the voltage margin, which is similar to BE-33.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-35	Filter time for calculating maximum output voltage	0xBE23	0ms~3000ms	10ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description:							

	Increasing the filter time allows the maximum output voltage to change slowly but affects voltage utilization.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-36	Rated flux adjustment coefficient for calculation	0xBE24	0.1~2.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: You can decrease the value of this parameter if under excitation is required, or increase it if over-excitation is required.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-37	Field weakening frequency adjustment coefficient for calculation	0xBE25	0.8~1.2	1.1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust the conversion frequency calculated automatically by the AC drive. After the flux linkage feedforward is enabled, decreasing this value makes the drive enter the field weakening state in advance. This function is applicable to applications requiring high dynamic response with short acceleration time.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-38	Slip filter time for calculating field weakening frequency	0xBE26	0ms~3000ms	62ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux linkage feedforward calculation by using inverse proportional speed is enabled, increasing the value of this parameter can reduce the fluctuation range of the calculated reference flux linkage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-39	Feedback speed filtering	0xBE27	0ms~8000ms	50ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux linkage feedforward calculation by using inverse proportional speed is enabled, increasing the value of this parameter can reduce the disturbance to the calculated flux linkage feedforward introduced by speed test.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BE-40	Flux linkage rising filter time	0xBE28	0ms~8000ms	20ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux linkage feedforward calculation by using inverse proportional speed is enabled, this parameter defines the filter time of the asymmetric filter that takes effect only when the reference flux linkage increases.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-41	Field weakening control gain	0xBE29	1ms~200ms	50ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BE-42	Feedback voltage filter time	0xBE2A	0ms~3000ms	0ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Increasing the filter time can reduce the fluctuation of the excitation current setting. To increase the field weakening gain, reduce the filter time. Otherwise, the system will oscillate.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-43	Maximum demagnetization current of synchronous motor	0xBE2B	0%~500%	300%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter is used to limit the demagnetization current of synchronous motors to prevent faults such as overload. It is a percentage relative to the rated current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-44	Voltage outer loop lower limit coefficient	0xBE2C	0~500	50	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter is used to limit the lower limit of flux linkage during field weakening for asynchronous motors to avoid limiting torque reduction.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BE-45	Flux linkage derivative feedforward coefficient	0xBE2D	0.0~1.5	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux linkage derivative feedforward of an asynchronous motor is enabled, this parameter can adjust the ratio of effective feedforward. A smaller value indicates smaller feedforward effect.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-46	Flux linkage derivative feedforward filter time	0xBE2E	0ms~3000ms	6ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Increasing the filter time can reduce the fluctuation of the calculated feedforward value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-47	Torque current rising filter time under energy conservation control	0xBE2F	0ms~3000ms	50ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When energy conservation control of an asynchronous motor is enabled, decreasing the value of this parameter can improve dynamic response and avoid a large drop in speed when a sudden load is applied. You need to increase this value when the output current fluctuates greatly.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-48	Torque current falling filter time under energy conservation control	0xBE30	0ms~3000ms	100ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When energy conservation control of an asynchronous motor is enabled, decreasing the value of this parameter can make the output current decrease rapidly after the load is reduced. You need to increase this value when the output current fluctuates greatly.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-49	Flux linkage lower limit coefficient under energy conservation control	0xBE31	0.00~0.50	0.10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: This parameter defines the minimum flux linkage allowed under energy conservation control. A smaller value indicates more significant energy conservation effect when no load is applied, but it will affect dynamic response after the load is added.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-50	Switchover frequency coefficient	0xBE32	0.0~10.0	1.0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the minimum permissible frequency when ImCsr2 high-speed mode cuts in the PI section.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-51	Pre-excitation current	0xBE33	1%~200%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When pre-excitation of an asynchronous motor is implemented based on current, this parameter defines the reference excitation current as a percentage of the rated current.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-52	Pre-excitation time	0xBE34	1ms~30000ms	1000ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When pre-excitation of an asynchronous motor is implemented based on time, this parameter defines the total excitation time. The actual excitation time will be shorter than the set time if remanence exists.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-53	Flux linkage closed-loop bandwidth frequency	0xBE35	0.0Hz~100.0Hz	1.0Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux closed loop is enabled, increasing the setpoint can reduce the deviation of the flux linkage from the rated value during dynamic processes such as sudden load or acceleration and deceleration of the asynchronous motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-54	Feedback flux linkage filter time coefficient	0xBE36	0~200	4	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux closed loop is enabled, increasing the setpoint can reduce fluctuation of the reference flux linkage. It is a percentage relative to the rotor time constant.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-55	Static output flux linkage filter time	0xBE37	0ms~5000ms	10ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Increasing the setpoint can reduce fluctuation of the reference flux linkage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-56	Current loop mode	0xBE38	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Value: 0: ImCsr2 mode 1: Complex vector mode 2: 880 mode 3: No field weakening							
	Description: Decreasing this value can enhance the current loop following capability, but the output current overshoot and harmonics will increase. 0: ImCsr2 mode 1: 880 mode 2: Complex vector mode 3: Non-field weakening mode							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-57	PI regulator proportional gain adaptation with load	0xBE39	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real

								time
	Value: 0: Disabled 1: Enabled							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-58	Current loop damping	0xBE3A	0.2~10.0	0.8	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Decreasing the value of this parameter can enhance current loop following but also increase the overshoot and harmonics of the output current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-59	Low-speed current loop Kp adjustment	0xBE3B	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The AC drive automatically calculates the current loop gain based on motor parameters. When the current oscillates at low speed or the torque fluctuates greatly, the set value can be reduced appropriately.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-60	High-speed current loop Kp adjustment	0xBE3C	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The AC drive automatically calculates the current loop gain based on motor parameters. When the current oscillates at low speed or the torque fluctuates greatly, the set value can be reduced appropriately.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-61	Current loop Ki adjustment at low speed	0xBE3D	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The AC drive automatically calculates the current loop gain based on motor parameters. When the current oscillates at low							

	speed or the torque fluctuates greatly, the set value can be reduced appropriately.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-62	High-speed current loop Ki adjustment	0xBE3E	0.1~10.0	2.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The AC drive automatically calculates the current loop gain based on motor parameters. When the current oscillates at low speed or the torque fluctuates greatly, the set value can be reduced appropriately.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-63	D-axis current loop complex vector adjustment	0xBE3F	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BE-64	Q-axis current loop complex vector adjustment	0xBE40	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BE-65	Complex vector hysteresis frequency lower limit as a percentage of rated frequency	0xBE41	0%~BE-66	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the lower limit of complex vector hysteresis frequency, which is a percentage of rated frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-66	Complex vector hysteresis frequency upper limit as a percentage of rated frequency	0xBE42	BE-65~150%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the upper limit of complex vector hysteresis frequency, which is a percentage of rated frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-67	ImCsr2 hysteresis switchover voltage upper	0xBE43	BE-68~95%	89%	Unsigned 16 bit	Real time changes	Expert user	Effective in real

	limit as a percentage of saturation voltage							time
	Description: Used to set the upper limit voltage for ImCsr2 hysteresis switchover, which is a percentage of saturation voltage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-68	ImCsr2 hysteresis switchover voltage lower limit as a percentage of saturation voltage	0xBE44	60%~BE-67	79%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the lower limit voltage for ImCsr2 hysteresis switchover, which is a percentage of saturation voltage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-69	ImCsr2 hysteresis switchover frequency hysteresis range as a percentage of rated frequency	0xBE45	1%~30%	10%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set ImCsr2 hysteresis range of hysteresis switchover frequency, which is a percentage of rated frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-70	ImCsr2 hysteresis switchover frequency lower limit (below which the hysteresis condition does not take effect) as a percentage of the rated frequency	0xBE46	20%~150%	75%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the lower limit of ImCsr2 hysteresis switchover frequency. The frequency hysteresis condition does not activate when this value is not reached. The setpoint is a percentage of rated frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-71	ImCsr2 current loop Kss	0xBE47	0.1~10.0	1.0	Unsigned	Real time	Expert	Effective

	adjustment				16 bit	changes	user	in real time
BE-72	Proportional gain adjustment coefficient corresponding to the maximum torque when proportional gain is adjusted with load	0xBE48	0.1~1.0	0.5	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the proportional gain adjustment coefficient corresponding to the max. torque.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-73	Torque upper limit setpoint as a percentage of rated torque when proportional gain is adjusted with load	0xBE49	BE-74~300%	200%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the torque upper limit, which is a percentage of the rated torque.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-74	Torque lower limit setpoint as a percentage of rated torque when proportional gain is adjusted with load	0xBE4A	10%~BE-73	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the torque lower limit, which is a percentage of the rated torque.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-75	Derivative feedforward adjustment	0xBE4B	0.0~1.0	0.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BE-76	Decoupling control start frequency as a percentage of rated frequency	0xBE4C	20%~150%	60%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description:							

	Used to set decoupling control starting frequency, which is a percentage of rated frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-77	Decoupling control filter time adjustment coefficient	0xBE4D	0.1~3.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BE-78	Decoupling control output adjustment coefficient	0xBE4E	0.0~1.0	0.7	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-79	CPC feedforward enable	0xBE4F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Enabled							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-80	Current loop auxiliary command word	0xBE50	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

Bit	Name	Value
bit 0	Complex vector angle limiting	0: Disabled 1: Enabled
bit1	Voltage angle limiting	0: Program internal limiting 1: Parameter setting
bit2	0 by default	0: No lower limit on the excitation current is imposed during the dynamic process. 1: A lower limit on the excitation current is imposed during the dynamic process in ImCsr2 mode.
bit3	Reserved (0 by default)	

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BE-81	Voltage angle upper limit	0xBE51	90°~180°	150°	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BE-82	Voltage angle lower limit	0xBE52	0°~90°	30°	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BE-83	Asynchronous motor D axis integral limit	0xBE53	0.500~1.000	0.707	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BE-84	Defines current loop carrier frequency upper limit.	0xBE54	5.0~16.0	8.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
BE-85	Droop enable	0xBE55	0~1	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used in load distribution when a load is driven by multiple motors.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-86	Droop source	0xBE56	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Line current 1: Torque reference 2: Speed adjustment output 3: Speed adjustment integral component							
	Description: Used to adjust the reference frequency. The higher the setpoint, the higher the frequency adjustment value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-87	Frequency reference droop coefficient	0xBE57	0.0%~50.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	Used to adjust the soften source.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-88	FVC-SVC switchover mode	0xBE58	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: No switchover 1: Active switchover 2: Passive switchover (Switch to SVC mode when encoder open circuit is detected. If the encoder is recovered during operation, the FVC mode will be recovered after stop.) 3: Passive switchover (Switch to SVC mode when encoder open circuit is detected. If the encoder is recovered during operation, the FVC mode will be recovered during operation or after stop.)							
	Description: Used to select the mode for switching from FVC mode to SVC mode. 0: Do not switch to the SVC mode in the FVC mode. 1: Keep operating in FVC mode at low speed based on the speed frequencies set by AB-89 and AB-90, and then switch to SVC mode at high speed. This mode is applicable to operating conditions with signals disturbed. 2: Switch to SVC mode when encoder open circuit is detected. If the encoder is recovered during operation, the FVC mode will be recovered after stop. 3: Switch to SVC mode when encoder open circuit is detected. If the encoder is recovered during operation, the FVC mode will be recovered during operation or after stop.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-89	FVC-SVC switchover frequency	0xBE59	10%~500%	50%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the switchover frequency when "Switched actively" is selected for FVC-to-SVC mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-90	FVC-SVC switchover hysteresis	0xBE5A	10%~100%	10%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the hysteresis when "Switched actively" is selected for FVC-to-SVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-91	Active short circuit control	0xBE5B	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Defines whether to enable active short circuit control.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-92	Delay time for entering active short circuit control	0xBE5C	0.0ms~5000.0ms	0.0ms	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the delay time before active short circuit control applies.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-93	Holding time of active short circuit control at stop	0xBE5D	0.1s~3600.0s	10.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the hold time before active short circuit control applies. The max. setpoint indicates the active short circuit control is always active.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-94	Current hysteresis loop high point coefficient in active short circuit control	0xBE5E	0.0%~120.0%	80.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated drive current is used as the basis. The actual hysteresis loop high point current is the min. value among voltage regulation, the highest safety current, and the setting value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BE-95	Current hysteresis loop high/low point coefficient ratio in active short circuit control	0xBE5F	0.0%~99.9%	90.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the hysteresis loop width of the current in active short circuit control, which is lower than 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-96	Overvoltage threshold in active short circuit control	0xBE60	330.0V~820.0V	780.0V	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The active short circuit control is turned off when this voltage hysteresis loop is exceeded.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-97	Voltage control point in active short circuit control	0xBE61	330.0V~BE-96	750.0V	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the voltage control point during active short circuit control.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-98	Voltage control bandwidth in active short circuit control	0xBE62	0.00Hz~100.00Hz	5.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the p value of voltage control. The PI input is the error voltage. The output is the high point of hysteresis loop current.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BE-99	Voltage control time constant in active short circuit control	0xBE63	0.001s~10.000s	0.500s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the i value controlled by voltage. The higher the setpoint, the lower the value of ki.							

BF Parameters for the Drive

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-01	Dynamic parameter adaption factor	0xBF01	20.0%~200.0%	100.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the speed loop adjustment intensity during inertia auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-02	Saturation model auto-tuning voltage setting mode	0xBF02	0~1	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
BF-03	Saturation model auto-tuning carrier frequency reference	0xBF03	0.0~10.0	6.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
BF-04	Saturation model auto-tuning target rated current multiple	0xBF04	0%~250%	200%	Unsigned 16 bit	Real time changes	General user	Effective in real time
BF-05	Saturation model auto-tuning manual voltage setpoint	0xBF05	0~4096	2000	Unsigned 16 bit	Real time changes	General user	Effective in real time
BF-06	Bus voltage filter time	0xBF06	0ms~10000ms	0ms	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the bus voltage rise filter time, which is used when calculating the max. output voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-07	Inverter protection	0xBF07	Refer to "Value"	128	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: Bit / Name / Value							

bit0	Pulse-by-pulse current limit protection (reserved)	0: Disable 1: Enable
bit1	Output phase loss (reserved)	0: Disable 1: Enable
bit2	Leakage current protection (reserved)	0: Disable 1: Enable
bit3	PL signal input phase loss detection (reserved)	0: Disable 1: Enable
bit4	Bus input phase loss detection (reserved)	0: Disable 1: Enable
bit5	Low-frequency derating off	0: Disable 1: Enable
bit6	Overvoltage not reported at stop	0: Disable 1: Enable
bit7	Zero drift detection fault	0: Disable 1: Enable
bit8	Buffer fault detection (reserved)	0: Disable 1: Enable
bit9	Bus voltage collection analysis	0: Disable 1: Enable
bit10	Software overcurrent detection	0: Disable 1: Enable
bit11	(Reserved)	0: Disable 1: Enable
bit12	(Reserved)	0: Disable 1: Enable
bit13	Derating basis	0: Five-segment pulsing 1: Seven-segment pulsing
bit14	Capacitor leakage detection	0: Disable 1: Enable

Description:

Set the inverter protection setting. You can set whether different protection functions are enabled. Bits information is shown below.

Bit0 to bit4: Reserved

Bit5: Derating at low frequency turned off, used to set whether to enable derating at low frequency (＜5 Hz)

Bit6: Overvoltage not reported at stop, used to set whether to report the fault in the stop state

Bit7: Zero drift detection fault, used to set whether to hide zero drift error detection fault, which may be reported falsely upon regenerative current caused by high-speed rotation of synchronous motor

Bit8: Reserved

Bit9: Bus voltage collection analysis that used to analyze whether input phase loss occurs on the bus voltage without

	reporting a fault Bit10: Software overcurrent detection Bit11: Reserved Bit12: Reserved Bit13: Calculate carrier frequency derating rate based on 5-segment pulsing or 7-segment pulsing Bit14: Capacitor leakage detection

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-09	AC drive pre-overload threshold	0xBF09	0.0%~100.0%	90.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: A pre-overload alarm will be reported when the accumulative overload value reaches this threshold.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-12	Input phase loss detection time	0xBF0C	1.0s~10.0s	2.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: A phase loss fault will be reported when the input phase loss error keeps for the time defined by this parameter.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-13	Allowable bus fluctuation range	0xBF0D	10.0V~500.0V	65.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the threshold for bus voltage error of input phase loss.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-14	Module pre-overtemperature to overtemperature margin	0xBF0E	0.0%~60.0%	5.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: A pre-overtemperature alarm will be reported when the drive temperature reaches the overtemperature threshold minus this margin.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-15	Maximum output current	0xBF0F	0.0%~1000.0%	1000.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the maximum output current of the drive, which takes the rated motor current as the basis.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-16	PWM setting	0xBF10	Refer to "Value"	130	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
bit0	Reserved	
bit1	Carrier frequency adjusted with synchronous frequency	0: Disable 1: Enable
bit2~bit7	Reserved	
bit8	Overmodulation mode	0: Amplitude 1: Phase
bit9	Fixed association with CPWM carrier frequency	0: Disable 1: Enable

Description:

The following shows pulsing mode setting.

Bit0: Reserved

Bit1: Carrier frequency adjusted with synchronous frequency (When this function is enabled, low-speed download will be restricted and the set carrier frequency recovers when high speed applies.)

Bit2 to bit7: Reserved

Bit8: Overmodulation mode: The amplitude mode outputs higher voltage but also incurs high harmonics, the phase mode output relatively low voltage but also incurs less harmonics.

Bit9: Fixed association with CPWM carrier frequency: Used to set whether to switch to 2/3 of DPWM carrier frequency (0 by default).

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-17	Hysteresis for adjusting carrier frequency with sync	0xBF11	0.0Hz~100.0Hz	3.0Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time

	frequency							
	Description: Synchronous frequency hysteresis for carrier frequency to switch with synchronous frequency							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-18	Cut-off frequency for dead zone compensation	0xBF12	0.0Hz~2000.0Hz	2000.0Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The dead zone compensation generates little influence during high-speed operation. When this frequency is exceeded, the dead zone compensation does not activate.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-19	Narrow pulse coefficient	0xBF13	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The dead zone time is the basis. Pulsing pulse that shorter than the dead zone time will be removed, which is usually applicable to high-power models.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-20	Start frequency for adjusting carrier frequency with sync frequency	0xBF14	0.0Hz~600.0Hz	5.0Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor operating frequency exceeds this frequency, the set carrier frequency takes effect. When the motor operates at low speed, the carrier frequency activated will be restricted by F2-37 and A5-08.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-21	Modulation ratio limit	0xBF15	A5-05~115.5%	105.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The higher the setpoint, the higher the overmodulation depth, and the higher the output voltage, but the corresponding							

	current harmonics will also be increased.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-22	Drive transistor voltage drop	0xBF16	0.00V~5.00V	0.80V	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter can be auto-tuned through motor parameter auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-23	Current 1 of dead zone time curve	0xBF17	0.0%~150.0%	1.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the current threshold of the dead zone time-current curve of the drive, which can be auto-tuned through motor parameter auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-24	Current 2 of dead zone time curve	0xBF18	0.0%~150.0%	2.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the current threshold of the dead zone time-current curve of the drive, which can be auto-tuned through motor parameter auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-25	Current 3 of dead zone time curve	0xBF19	0.0%~150.0%	5.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the current threshold of the dead zone time-current curve of the drive, which can be auto-tuned through motor parameter auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

BF-26	Current 4 of dead zone time curve	0xBF1A	0.0%~150.0%	10.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the current threshold of the dead zone time-current curve of the drive, which can be auto-tuned through motor parameter auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-27	Current 5 of dead zone time curve	0xBF1B	0.0%~150.0%	20.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the current threshold of the dead zone time-current curve of the drive, which can be auto-tuned through motor parameter auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-28	Current 6 of dead zone time curve	0xBF1C	0.0%~150.0%	40.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the current threshold of the dead zone time-current curve of the drive, which can be auto-tuned through motor parameter auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-29	Current 7 of dead zone time curve	0xBF1D	0.0%~150.0%	60.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the current threshold of the dead zone time-current curve of the drive, which can be auto-tuned through motor parameter auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-30	Current 8 of dead zone time curve	0xBF1E	0.0%~150.0%	80.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time

	Description: Defines the current threshold of the dead zone time-current curve of the drive, which can be auto-tuned through motor parameter auto-tuning.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-31	Time 1 of dead zone time curve	0xBF1F	0.0%~300.0%	10.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the time threshold of the dead zone time-current curve of the drive, which can be auto-tuned through motor parameter auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-32	Time 2 of dead zone time curve	0xBF20	0.0%~300.0%	20.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the time threshold of the dead zone time-current curve of the drive, which can be auto-tuned through motor parameter auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-33	Time 3 of dead zone time curve	0xBF21	0.0%~300.0%	50.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the time threshold of the dead zone time-current curve of the drive, which can be auto-tuned through motor parameter auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-34	Time 4 of dead zone time curve	0xBF22	0.0%~300.0%	80.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the time threshold of the dead zone time-current curve of the drive, which can be auto-tuned through motor parameter auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-35	Time 5 of dead zone time curve	0xBF23	0.0%~300.0%	90.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the time threshold of the dead zone time-current curve of the drive, which can be auto-tuned through motor parameter auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-36	Time 6 of dead zone time curve	0xBF24	0.0%~300.0%	90.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the time threshold of the dead zone time-current curve of the drive, which can be auto-tuned through motor parameter auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-37	Time 7 of dead zone time curve	0xBF25	0.0%~300.0%	90.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the time threshold of the dead zone time-current curve of the drive, which can be auto-tuned through motor parameter auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-38	Time 8 of dead zone time curve	0xBF26	0.0%~300.0%	90.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the time threshold of the dead zone time-current curve of the drive, which can be auto-tuned through motor parameter auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-39	Detection of excessive	0xBF27	Refer to "Value"	0	Unsigned	Shutdown	General	Effective

	leakage current				16 bit	change	user	in real time
	Value： 0：Disabled 1： Enabled							
	Description： Used to enable excessive leakage current detection, which is only active for three-phase current sampling model.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-40	Excessive leakage current fault threshold protection gain	0xBF28	50.0%~100.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Used to set the excessive leakage current threshold. The corresponding fault will be reported when the leakage current detected exceeds this threshold.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-41	Common mode noise suppression width	0xBF29	0~100	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： Used to set the time width for suppressing common mode noise. The higher the setpoint, the better the suppression effect, but the output voltage and current harmonics will also be increased.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
BF-44	Start voltage for actuating braking unit	0xBF2C	200.0V~2000.0V	760.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： For models equipped with braking resistor, the brake starts working when the bus voltage exceeds this voltage threshold.							

C1 bit-word conversion

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C1-00	Input of W2B module A	0xC100	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Disabled. The output is 0. Others: K-connector							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-01	Input of W2B module B	0xC101	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Disable, output being 0 Others: If a word connector is selected, the value of the word connector will be converted to bits to be outputted. If a double-word connector is selected, the high 16 bits of the value of the double-word connector will be converted to bits to be outputted.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-02	Input of W2B module C	0xC102	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Disable, output being 0 Others: If a word connector is selected, the value of the word connector will be converted to bit to be outputted. If a double-word connector is selected, the high 16 bits of the value of the double-word connector will be converted to bits to be outputted.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-03	Input of W2B module D	0xC103	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description:							

	0: Disable, output being 0 Others: If a word connector is selected, the value of the word connector will be converted to bits to be outputted. If a double-word connector is selected, the high 16 bits of the value of the double-word connector will be converted to bits to be outputted.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-04	Input of W2B module E	0xC104	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Disable, output being 0 Others: If a word connector is selected, the value of the word connector will be converted to bits to be outputted. If a double-word connector is selected, the high 16 bits of the value of the double-word connector will be converted to bits to be outputted.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-05	Input of W2B module F	0xC105	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Disable, output being 0 Others: If a word connector is selected, the value of the word connector will be converted to bits to be outputted. If a double-word connector is selected, the high 16 bits of the value of the double-word connector will be converted to bits to be outputted.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-06	Input of W2B module G	0xC106	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Disable, output being 0 Others: If a word connector is selected, the value of the word connector will be converted to bits to be outputted. If a double-word connector is selected, the high 16 bits of the value of the double-word connector will be converted to bits to be outputted.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C1-07	Input of W2B module H	0xC107	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Disabled, with output being 0 Others: If a word connector is selected, the value of the word connector will be converted to bit. If a double-word connector is selected, the high 16 bits of the value of the double-word connector will be converted to bits to be outputted.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-12	B2W module A enable	0xC10C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: 0: Disabled, with output being 0 1: Enabled, inputs of C1-14...C1-29 are used as bit0...bit15 and converted to words to be outputted							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-13	Bit inversion flag of B2W module A	0xC10D	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Bit0...bit15 of the setpoint are used as the inversion flag to invert each input bit of C1-14...C1-29.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-14	Bit 00 selection of bit-to-word module A	0xC10E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: 1 2: 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0							

	1: Input 1 2: Input 0 3–18: Input of corresponding DI Others: B-connector

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-15	Bit 01 selection of bit-to-word module A	0xC10F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-14"							
	Description: Same as"C1-14"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-16	Bit 02 selection of bit-to-word module A	0xC110	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-15"							
	Description: Same as"C1-15"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-17	Bit 03 selection of bit-to-word module A	0xC111	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-16"							
	Description: Same as"C1-16"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-18	Bit 04 selection of bit-to-word module A	0xC112	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-17"							
	Description: Same as"C1-17"							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C1-19	Bit 05 selection of bit-to-word module A	0xC113	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-18"							
	Description: Same as"C1-18"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-20	Bit 06 selection of bit-to-word module A	0xC114	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-19"							
	Description: Same as"C1-19"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-21	Bit 07 selection of bit-to-word module A	0xC115	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-20"							
	Description: Same as"C1-20"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-22	Bit 08 selection of bit-to-word module A	0xC116	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-21"							
	Description: Same as"C1-21"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-23	Bit 09 selection of bit-to-word module A	0xC117	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value:							

	Same as"C1-22"							
	Description: Same as"C1-22"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-24	Bit 10 selection of bit-to-word module A	0xC118	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-23"							
	Description: Same as"C1-23"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-25	Bit 11 selection of bit-to-word module A	0xC119	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-24"							
	Description: Same as"C1-24"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-26	Bit 12 selection of bit-to-word module A	0xC11A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-25"							
	Description: Same as"C1-25"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-27	Bit 13 selection of bit-to-word module A	0xC11B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-26"							
	Description: Same as"C1-26"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C1-28	Bit 14 selection of bit-to-word module A	0xC11C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-27"							
	Description: Same as"C1-27"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-29	Bit 15 selection of bit-to-word module A	0xC11D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-28"							
	Description: Same as"C1-28"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-30	B2W module B enable	0xC11E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: 0: Disable, output being 0 1: Enable, inputs of C1-32...C1-47 are used as bit0...bit15 and converted to words to be outputted							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-31	Bit inversion flag of B2W module B	0xC11F	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Bit0...bit15 of the setpoint are used as the inversion flag to invert each input bit of C1-32...C1-47.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-32	Bit 00 selection of bit-to-word module B	0xC120	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 7: DI5 14: DI12 1: 1 8: DI6 15: DI13 2: 0 9: DI7 16: DI14							

	3: DI1 4: DI2 5: DI3 6: DI4		10: DI8 11: DI9 12: DI10 13: DI11		17: DI15 18: DI16 0: B-connector			
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-33	Bit 01 selection of bit-to-word module B	0xC121	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-32"							
	Description: Same as"C1-32"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-34	Bit 02 selection of bit-to-word module B	0xC122	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-33"							
	Description: Same as"C1-33"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-35	Bit 03 selection of bit-to-word module B	0xC123	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-34"							
	Description: Same as"C1-34"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-36	Bit 04 selection of bit-to-word module	0xC124	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	B							
	Value: Same as"C1-35"							
	Description: Same as"C1-35"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-37	Bit 05 selection of bit-to-word module B	0xC125	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-36"							
	Description: Same as"C1-36"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-38	Bit 06 selection of bit-to-word module B	0xC126	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-37"							
	Description: Same as"C1-37"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-39	Bit 07 selection of bit-to-word module B	0xC127	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-38"							
	Description: Same as"C1-38"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-40	Bit 08 selection of bit-to-word module B	0xC128	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-39"							
	Description: Same as"C1-39"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-41	Bit 09 selection of bit-to-word module B	0xC129	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-40"							
	Description: Same as"C1-40"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-42	Bit 10 selection of bit-to-word module B	0xC12A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-41"							
	Description: Same as"C1-41"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-43	Bit 11 selection of bit-to-word module B	0xC12B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-42"							
	Description: Same as"C1-42"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-44	Bit 12 selection of bit-to-word module B	0xC12C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-43"							
	Description: Same as"C1-43"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-45	Bit 13 selection of bit-to-word module B	0xC12D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Value: Same as"C1-44"
	Description: Same as"C1-44"

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-46	Bit 14 selection of bit-to-word module B	0xC12E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: 0	7: DI5	14: DI12
1: 1	8: DI6	15: DI13
2: 0	9: DI7	16: DI14
3: DI1	10: DI8	17: DI15
4: DI2	11: DI9	18: DI16
5: DI3	12: DI10	0: B-connector
6: DI4	13: DI11	

Description:

0: Input 0

1: Input 1

2: Input 0

3...18: Input being corresponding terminal input

Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-47	Bit 15 selection of bit-to-word module B	0xC12F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: 0	7: DI5	14: DI12
1: 1	8: DI6	15: DI13
2: 0	9: DI7	16: DI14
3: DI1	10: DI8	17: DI15
4: DI2	11: DI9	18: DI16
5: DI3	12: DI10	0: B-connector
6: DI4	13: DI11	

Description:

0: Input 0

1: Input 1

2: Input 0

3...18: Input being corresponding terminal input

Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-48	B2W module C enable	0xC130	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: 0: Disabled, with output being 0 1: Enabled, inputs of C1-50...C1-65 are used as bit0...bit15 and converted to words to be outputted							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-49	Bit inversion flag of B2W module C	0xC131	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Bit0...bit15 of the setpoint are used as the inversion flag to invert each input bit of C1-50...C1-65.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-50	Bit 00 selection of bit-to-word module C	0xC132	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: 1 2: 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-51	Bit 01 selection of bit-to-word module C	0xC133	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value:							

	Same as"C1-50"
	Description: Same as"C1-50"

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-52	Bit 02 selection of bit-to-word module C	0xC134	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: 1 2: 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-53	Bit 03 selection of bit-to-word module C	0xC135	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: 1 2: 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C1-54	Bit 04 selection of bit-to-word module C	0xC136	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: 1 2: 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-55	Bit 05 selection of bit-to-word module C	0xC137	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: 1 2: 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-56	Bit 06 selection of bit-to-word module C	0xC138	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Value: Same as"C1-55"
	Description: Same as"C1-55"

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-57	Bit 07 selection of bit-to-word module C	0xC139	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-56"							
	Description: Same as"C1-56"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-58	Bit 08 selection of bit-to-word module C	0xC13A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-57"							
	Description: Same as"C1-57"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-59	Bit 09 selection of bit-to-word module C	0xC13B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-58"							
	Description: Same as"C1-58"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-60	Bit 10 selection of bit-to-word module C	0xC13C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-59"							
	Description: Same as"C1-59"							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C1-61	Bit 11 selection of bit-to-word module C	0xC13D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-60"							
	Description: Same as"C1-60"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-62	Bit 12 selection of bit-to-word module C	0xC13E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-61"							
	Description: Same as"C1-61"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-63	Bit 13 selection of bit-to-word module C	0xC13F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-62"							
	Description: Same as"C1-62"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-64	Bit 14 selection of bit-to-word module C	0xC140	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-63"							
	Description: Same as"C1-63"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-65	Bit 15 selection of bit-to-word module C	0xC141	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value:							

	Same as"C1-64"
	Description： Same as"C1-64"

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-66	B2W module D enable	0xC142	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： Disabled 1： Enabled							
	Description： 0: Disable, output being 0 1: Enable, inputs of C1-68...C1-83 are used as bit0...bit15 and converted to words to be outputted							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-67	Bit inversion flag of B2W module D	0xC143	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： Bit0...bit15 of the setpoint are used as the inversion flag to invert each input bit of C1-68...C1-83.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-68	Bit 00 selection of bit-to-word module D	0xC144	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： 0 1： 1 2： 0 3： DI1 4： DI2 5： DI3 6： DI4 7： DI5 8： DI6 9： DI7 10： DI8 11： DI9 12： DI10 13： DI11 14： DI12 15： DI13 16： DI14 17： DI15 18： DI16 0： B-connector							
	Description： 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-69	Bit 01 selection of	0xC145	Refer to	0	Unsigned	Real time	Expert	Effective in

	bit-to-word module D		"Value"		16 bit	changes	user	real time
	Value: Same as"C1-68"							
	Description: Same as"C1-68"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-70	Bit 02 selection of bit-to-word module D	0xC146	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-69"							
	Description: Same as"C1-69"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-71	Bit 03 selection of bit-to-word module D	0xC147	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-70"							
	Description: Same as"C1-70"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-72	Bit 04 selection of bit-to-word module D	0xC148	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-71"							
	Description: Same as"C1-71"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-73	Bit 05 selection of bit-to-word module D	0xC149	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-72"							
	Description:							

	Same as"C1-72"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-74	Bit 06 selection of bit-to-word module D	0xC14A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-73"							
	Description: Same as"C1-73"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-75	Bit 07 selection of bit-to-word module D	0xC14B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-74"							
	Description: Same as"C1-74"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-76	Bit 08 selection of bit-to-word module D	0xC14C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-75"							
	Description: Same as"C1-75"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-77	Bit 09 selection of bit-to-word module D	0xC14D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-76"							
	Description: Same as"C1-76"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-78	Bit 10 selection of bit-to-word module	0xC14E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	D							
	Value: Same as"C1-77"							
	Description: Same as"C1-77"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-79	Bit 11 selection of bit-to-word module D	0xC14F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-78"							
	Description: Same as"C1-78"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-80	Bit 12 selection of bit-to-word module D	0xC150	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-79"							
	Description: Same as"C1-79"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-81	Bit 13 selection of bit-to-word module D	0xC151	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-80"							
	Description: Same as"C1-80"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-82	Bit 14 selection of bit-to-word module D	0xC152	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-81"							
	Description: Same as"C1-81"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C1-83	Bit 15 selection of bit-to-word module D	0xC153	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C1-82"							
	Description: Same as"C1-82"							

C2 Single-word/Double-word Conversion

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-00	LOWORD of W-DW conversion A	0xC200	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: The input is 0. Others: K-connector							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-01	HIWORD of W-DW conversion A	0xC201	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: 0: Disabled. The output is 0. Others: K-connector							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-02	Low-order bits of base value of W-DW conversion A	0xC202	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter defines the low-order 16 bits of the DWord base value. The DWord output by C2-00 and C2-01 is divided by the base value and then output to the float-connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-03	High-order bits of base value of W-DW conversion A	0xC203	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter defines the high-order 16 bits of the DWord base value. The DWord output by C2-00 and C2-01 is divided by the base value and then output to the float-connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-04	LOWORD of W-DW conversion B	0xC204	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input being 0 Others: When the input is the word connector, the value of the word connector is used. If the input is the double-word connector, the high 16 bits of the double word are used.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-05	HIWORD of W-DW conversion B	0xC205	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: 0: Module disabled, with output being 0 Others: When the input is the word connector, the value of the word connector is used. If the input is the double-word connector, the high 16 bits of the double word are used. The high 16 bits of the double word generate double word output together with single word of C2-04.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-06	Low-order bits of base value of W-DW conversion B	0xC206	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the low 16 bits of the base value of the double word. The double word outputted by C2-04 and C2-05 is outputted to the float connector after being divided by the base value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C2-07	High-order bits of base value of W-DW conversion B	0xC207	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the high 16 bits of the base value of the double word. The double word outputted by C2-04 and C2-05 is outputted to the float connector after being divided by the base value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-08	LOWORD of W-DW conversion C	0xC208	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input being 0 Others: When the input is the word connector, the value of the word connector is used. If the input is the double-word connector, the high 16 bits of the double word are used.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-09	HIWORD of W-DW conversion C	0xC209	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: 0: Module disabled, with output being 0 Others: When the input is the word connector, the value of the word connector is used. If the input is the double-word connector, the high 16 bits of the double word are used. The high 16 bits of the double word generate double word output together with single word of C2-08.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-10	Low-order bits of base value of W-DW conversion C	0xC20A	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the low 16 bits of the base value of the double word. The double word outputted by C2-08 and C2-09 is outputted to the float connector after being divided by the base value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-11	High-order bits of base value of W-DW	0xC20B	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	conversion C							
	Description: Used as the high 16 bits of the base value of the double word. The double word outputted by C2-08 and C2-09 is outputted to the float connector after being divided by the base value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-12	LOWORD of W-DW conversion D	0xC20C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input being 0 Others: When the input is the word connector, the value of the word connector is used. If the input is the double-word connector, the high 16 bits of the double word are used.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-13	HIWORD of W-DW conversion D	0xC20D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: 0: Module disabled, with output being 0 Others: When the input is the word connector, the value of the word connector is used. If the input is the double-word connector, the high 16 bits of the double word are used. The high 16 bits of the double word generate double word output together with single word of C2-12.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-14	Low-order bits of base value of W-DW conversion D	0xC20E	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the low 16 bits of the base value of the double word. The double word outputted by C2-12 and C2-13 is outputted to the float connector after being divided by the base value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-15	High-order bits of base value of W-DW conversion D	0xC20F	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description:							

	Used as the high 16 bits of the base value of the double word. The double word outputted by C2-12 and C2-13 is outputted to the float connector after being divided by the base value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-32	DW-W conversion A	0xC220	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: 0: Disabled. The output is 0. Other0: K-connector							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-33	Low-order bits of base value of DW-W conversion A	0xC221	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter defines the low-order 16 bits of the DWord base value. The DWord input by C2-32 is divided by the base value and then output to the float-connector.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-34	High-order bits of base value of DW-W conversion A	0xC222	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter defines the high-order 16 bits of the DWord base value. The DWord input by C2-32 is divided by the base value and then output to the float-connector.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-35	DW-W conversion B	0xC223	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: 0: Module disabled Others: When word connector is selected, the high word outputted is the value of the word connector, and the low word outputted is 0. When double word connector is selected, the high words outputted are the high 16 bits of the double word and the low words outputted are the low 16 bits of the double word.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C2-36	Low-order bits of base value of DW-W conversion B	0xC224	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the low 16 bits of the base value of the double word. The double word inputted by C2-32 is outputted to the float connector after being divided by the base value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-37	High-order bits of base value of DW-W conversion B	0xC225	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the high 16 bits of the base value of the double word. The double word inputted by C2-32 is outputted to the float connector after being divided by the base value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-38	DW-W conversion C	0xC226	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: 0: Module disabled Others: When word connector is selected, the high word outputted is the value of the word connector, and the low word outputted is 0. When double word connector is selected, the high words outputted are the high 16 bits of the double word and the low words outputted are the low 16 bits of the double word.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-39	Low-order bits of base value of DW-W conversion C	0xC227	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the low 16 bits of the base value of the double word. The double word inputted by C2-32 is outputted to the float connector after being divided by the base value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-40	High-order bits of base value of DW-W conversion C	0xC228	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the high 16 bits of the base value of the double word. The double word inputted by C2-32 is outputted to the float							

	connector after being divided by the base value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-41	DW-W conversion D	0xC229	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: 0: Module disabled Others: When word connector is selected, the high word outputted is the value of the word connector, and the low word outputted is 0. When double word connector is selected, the high words outputted are the high 16 bits of the double word and the low words outputted are the low 16 bits of the double word.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-42	Low-order bits of base value of DW-W conversion D	0xC22A	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the low 16 bits of the base value of the double word. The double word inputted by C2-32 is outputted to the float connector after being divided by the base value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C2-43	High-order bits of base value of DW-W conversion D	0xC22B	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the high 16 bits of the base value of the double word. The double word inputted by C2-32 is outputted to the float connector after being divided by the base value.							

C3 Logic Operation

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-00	Function of logic AND-OR module A	0xC300	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AND 2: OR							

	Description: 0: Disabled. The output is 0. 1: AND. The inputs 1, 2, 3, and 4 are ANDed and then output. 2: OR. The inputs 1, 2, 3, and 4 are ORed and then output.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-01	Input 1 of logic AND-OR module A	0xC301	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3–18: Input of corresponding DI Others: B-connector							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-02	Input 2 of logic AND-OR module A	0xC302	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3–18: Input of corresponding DI Others: B-connector							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C3-03	Input 3 of logic AND-OR module A	0xC303	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-02"							
	Description: Same as"C3-02"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-04	Input 4 of logic AND-OR module A	0xC304	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-03"							
	Description: Same as"C3-03"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-05	Function of logic AND-OR module B	0xC305	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AND 2: OR							
	Description: 0: Module disabled, with output being 1: Module function being AND, inputs 1, 2, 3, and 4 are outputted after being performed with AND operation 2: Module function being OR, inputs 1, 2, 3, and 4 are outputted after being performed with OR operation							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-06	Input 1 of logic AND-OR module B	0xC306	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1							

	2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-07	Input 2 of logic AND-OR module B	0xC307	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-08	Input 3 of logic AND-OR module B	0xC308	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-07"							
	Description: Same as"C3-07"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-09	Input 4 of logic AND-OR module B	0xC309	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-08"							
	Description: Same as"C3-08"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-10	Function of logic AND-OR module C	0xC30A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Value: 0: Disabled 1: AND 2: OR
	Description: 0: Module disabled, with output being 0 1: Module function being AND, inputs 1, 2, 3, and 4 are outputted after being performed with AND operation 2: Module function being OR, inputs 1, 2, 3, and 4 are outputted after being performed with OR operation

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-11	Input 1 of logic AND-OR module C	0xC30B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-12	Input 2 of logic AND-OR module C	0xC30C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-11"							
	Description: Same as"C3-11"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-13	Input 3 of logic AND-OR module C	0xC30D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-12"							
	Description:							

	Same as"C3-12"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-14	Input 4 of logic AND-OR module C	0xC30E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-13"							
	Description: Same as"C3-13"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-15	Function of logic AND-OR module D	0xC30F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AND 2: OR							
	Description: 0: Module disabled, with output being 0 1: Module function being AND, inputs 1, 2, 3, and 4 are outputted after being performed with AND operation 2: Module function being OR, inputs 1, 2, 3, and 4 are outputted after being performed with OR operation							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-16	Input 1 of logic AND-OR module D	0xC310	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C3-17	Input 2 of logic AND-OR module D	0xC311	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-16"							
	Description: Same as"C3-16"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-18	Input 3 of logic AND-OR module D	0xC312	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-17"							
	Description: Same as"C3-17"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-19	Input 4 of logic AND-OR module D	0xC313	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-18"							
	Description: Same as"C3-18"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-20	Function of logic AND-OR module E	0xC314	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AND 2: OR							
	Description: 0: Module disabled, with output being 0 1: Module function being AND, inputs 1, 2, 3, and 4 are outputted after being performed with AND operation 2: Module function being OR, inputs 1, 2, 3, and 4 are outputted after being performed with OR operation							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-21	Input 1 of logic AND-OR module E	0xC315	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 7: DI5 14: DI12 1: Logic 1 8: DI6 15: DI13							

	2： Logic 0 3： DI1 4： DI2 5： DI3 6： DI4		9： DI7 10： DI8 11： DI9 12： DI10 13： DI11			16： DI14 17： DI15 18： DI16 0： B-connector		
	Description： 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-22	Input 2 of logic AND-OR module E	0xC316	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： Same as"C3-21"							
	Description： Same as"C3-21"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-23	Input 3 of logic AND-OR module E	0xC317	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： Same as"C3-22"							
	Description： Same as"C3-22"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-24	Function of logic AND-OR module F	0xC318	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： Disabled 1： AND 2： OR							
	Description： 0: Module disabled, with output being 0 1: Module function being AND, inputs 1, 2, 3, and 4 are outputted after being performed with AND operation 2: Module function being OR, inputs 1, 2, 3, and 4 are outputted after being performed with OR operation							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C3-25	Input 1 of logic AND-OR module F	0xC319	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-26	Input 2 of logic AND-OR module F	0xC31A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-25"							
	Description: Same as"C3-25"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-27	Input 3 of logic AND-OR module F	0xC31B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-26"							
	Description: Same as"C3-26"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-28	Function of logic AND-OR module G	0xC31C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AND 2: OR							
	Description:							

	0: Module disabled, with output being 0 1: Module function being AND, inputs 1, 2, 3, and 4 are outputted after being performed with AND operation 2: Module function being OR, inputs 1, 2, 3, and 4 are outputted after being performed with OR operation

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-29	Input 1 of logic AND-OR module G	0xC31D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-30	Input 2 of logic AND-OR module G	0xC31E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-29"							
	Description: Same as"C3-29"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-31	Input 3 of logic AND-OR module G	0xC31F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-30"							
	Description: Same as"C3-30"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-32	Function of logic AND-OR module H	0xC320	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Value: 0: Disabled 1: AND 2: OR
	Description: 0: Module disabled, with output being 0 1: Module function being AND, inputs 1, 2, 3, and 4 are outputted after being performed with AND operation 2: Module function being OR, inputs 1, 2, 3, and 4 are outputted after being performed with OR operation

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-33	Input 1 of logic AND-OR module H	0xC321	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-34	Input 2 of logic AND-OR module H	0xC322	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-33"							
	Description: Same as"C3-33"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-35	Input 3 of logic AND-OR module H	0xC323	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-34"							
	Description:							

	Same as"C3-34"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-36	Function of logic AND-OR module I	0xC324	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AND 2: OR							
	Description: 0: Module disabled, with output being 0 1: Module function being AND, inputs 1, 2, 3, and 4 are outputted after being performed with AND operation 2: Module function being OR, inputs 1, 2, 3, and 4 are outputted after being performed with OR operation							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-37	Input 1 of logic AND-OR module I	0xC325	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-38	Input 2 of logic AND-OR module I	0xC326	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-37"							
	Description: Same as"C3-37"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C3-39	Input 3 of logic AND-OR module I	0xC327	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-38"							
	Description: Same as"C3-38"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-40	Function of logic AND-OR module J	0xC328	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AND 2: OR							
	Description: 0: Module disabled, with output being 0 1: Module function being AND, inputs 1, 2, 3, and 4 are outputted after being performed with AND operation 2: Module function being OR, inputs 1, 2, 3, and 4 are outputted after being performed with OR operation							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-41	Input 1 of logic AND-OR module J	0xC329	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-42	Input 2 of logic AND-OR module J	0xC32A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value:							

	Same as"C3-41"
	Description: Same as"C3-41"

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-43	Input 3 of logic AND-OR module J	0xC32B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-42"							
	Description: Same as"C3-42"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-44	Function of logic AND-OR module K	0xC32C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AND 2: OR							
	Description: 0: Module disabled, with output being 0 1: Module function being AND, inputs 1, 2, 3, and 4 are outputted after being performed with AND operation 2: Module function being OR, inputs 1, 2, 3, and 4 are outputted after being performed with OR operation							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-45	Input 1 of logic AND-OR module K	0xC32D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-46	Input 2 of logic AND-OR module K	0xC32E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-45"							
	Description: Same as"C3-45"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-47	Input 3 of logic AND-OR module K	0xC32F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-46"							
	Description: Same as"C3-46"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-48	Function of logic AND-OR module L	0xC330	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AND 2: OR							
	Description: 0: Module disabled, with output being 0 1: Module function being AND, inputs 1, 2, 3, and 4 are outputted after being performed with AND operation 2: Module function being OR, inputs 1, 2, 3, and 4 are outputted after being performed with OR operation							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-49	Input 1 of logic AND-OR module L	0xC331	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description:							

	0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-50	Input 2 of logic AND-OR module L	0xC332	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-49"							
	Description: Same as"C3-49"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-51	Input 3 of logic AND-OR module L	0xC333	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-50"							
	Description: Same as"C3-50"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-56	Input of logic NOT module A	0xC338	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: The input is NOTed and then output. 0: Disabled. The output is 0. 1: Module input 1 2: Module input 0 3–18: Input of corresponding DI Others: B-connector							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C3-57	Input of logic NOT module B	0xC339	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: The module generates output after perform NOT operation on the input. 0: Module disabled, with output being 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-58	Input of logic NOT module C	0xC33A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-57"							
	Description: Same as"C3-57"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-59	Input of logic NOT module D	0xC33B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-58"							
	Description: Same as"C3-58"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-60	Input of logic NOT module E	0xC33C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-59"							
	Description: Same as"C3-59"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-61	Input of logic NOT module F	0xC33D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-60"							
	Description: Same as"C3-60"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-62	Input of logic NOT module G	0xC33E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-61"							
	Description: Same as"C3-61"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-63	Input of logic NOT module H	0xC33F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-62"							
	Description: Same as"C3-62"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-64	Input of logic NOT module I	0xC340	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-63"							
	Description: Same as"C3-63"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-65	Input of logic NOT module J	0xC341	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-64"							
	Description: Same as"C3-64"							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C3-66	Input of logic NOT module K	0xC342	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-65"							
	Description: Same as"C3-65"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-67	Input of logic NOT module L	0xC343	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-66"							
	Description: Same as"C3-66"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-68	Input of logic NOT module M	0xC344	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-67"							
	Description: Same as"C3-67"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-69	Input of logic NOT module N	0xC345	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-68"							
	Description: Same as"C3-68"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-70	Input of logic NOT module O	0xC346	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-69"							
	Description: Same as"C3-69"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C3-71	Input of logic NOT module P	0xC347	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-70"							
	Description: Same as"C3-70"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-72	Function of logic XOR/XNOR module A	0xC348	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: XOR 2: XNOR							
	Description: 0: Disabled. The output is 0. 1: XOR. The inputs 1 and 2 are XORed and then output. 2: XNOR. The inputs 1 and 2 are XNORed and then output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-73	Input 1 of logic XOR/XNOR module A	0xC349	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3–18: Input of corresponding DI Others: B-connector							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-74	Input 2 of logic XOR/XNOR module A	0xC34A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value:							

	Same as"C3-73"
	Description: Same as"C3-73"

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-75	Function of logic XOR/XNOR module B	0xC34B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: XOR 2: XNOR							
	Description: 0: Module disabled, with output being 0 1: Module function being XOR, inputs 1 and 2 are outputted after being performed with XOR operation 2: Module function being NXOR, inputs 1 and 2 are outputted after being performed with NXOR operation							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-76	Input 1 of logic XOR/XNOR module B	0xC34C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-77	Input 2 of logic XOR/XNOR module B	0xC34D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-76"							
	Description: Same as"C3-76"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-78	Function of logic XOR/XNOR module C	0xC34E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: XOR 2: XNOR							
	Description: 0: Module disabled, with output being 0 1: Module function being XOR, inputs 1 and 2 are outputted after being performed with XOR operation 2: Module function being NXOR, inputs 1 and 2 are outputted after being performed with NXOR operation							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-79	Input 1 of logic XOR/XNOR module C	0xC34F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-80	Input 2 of logic XOR/XNOR module C	0xC350	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-79"							
	Description: Same as"C3-79"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-81	Function of logic	0xC351	Refer to	0	Unsigned	Real time	Expert	Effective in

	XOR/XNOR module D		"Value"		16 bit	changes	user	real time
	Value: 0: Disabled 1: XOR 2: XNOR							
	Description: 0: Module disabled, with output being 0 1: Module function being XOR, inputs 1 and 2 are outputted after being performed with XOR operation 2: Module function being NXOR, inputs 1 and 2 are outputted after being performed with NXOR operation							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-82	Input 1 of logic XOR/XNOR module D	0xC352	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-83	Input 2 of logic XOR/XNOR module D	0xC353	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-82"							
	Description: Same as"C3-82"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-84	Function of logic XOR/XNOR module E	0xC354	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled							

	1： XOR 2： XNOR
	Description： 0: Module disabled, with output being 0 1: Module function being XOR, inputs 1 and 2 are outputted after being performed with XOR operation 2: Module function being NXOR, inputs 1 and 2 are outputted after being performed with NXOR operation

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-85	Input 1 of logic XOR/XNOR module E	0xC355	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： Logic 0 1： Logic 1 2： Logic 0 3： DI1 4： DI2 5： DI3 6： DI4 7： DI5 8： DI6 9： DI7 10： DI8 11： DI9 12： DI10 13： DI11 14： DI12 15： DI13 16： DI14 17： DI15 18： DI16 0： B-connector							
	Description： 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-86	Input 2 of logic XOR/XNOR module E	0xC356	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： Same as"C3-85"							
	Description： Same as"C3-85"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-87	Function of logic XOR/XNOR module F	0xC357	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： Disabled 1： XOR 2： XNOR							
	Description：							

	0: Module disabled, with output being 0 1: Module function being XOR, inputs 1 and 2 are outputted after being performed with XOR operation 2: Module function being NXOR, inputs 1 and 2 are outputted after being performed with NXOR operation

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-88	Input 1 of logic XOR/XNOR module F	0xC358	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-89	Input 2 of logic XOR/XNOR module F	0xC359	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-88"							
	Description: Same as"C3-88"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-90	Function of logic XOR/XNOR module G	0xC35A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: XOR 2: XNOR							
	Description: 0: Module disabled, with output being 0 1: Module function being XOR, inputs 1 and 2 are outputted after being performed with XOR operation 2: Module function being NXOR, inputs 1 and 2 are outputted after being performed with NXOR operation							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-91	Input 1 of logic XOR/XNOR module G	0xC35B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-92	Input 2 of logic XOR/XNOR module G	0xC35C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-91"							
	Description: Same as"C3-91"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-93	Function of logic XOR/XNOR module H	0xC35D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: XOR 2: XNOR							
	Description: 0: Module disabled, with output being 0 1: Module function being XOR, inputs 1 and 2 are outputted after being performed with XOR operation 2: Module function being NXOR, inputs 1 and 2 are outputted after being performed with NXOR operation							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-94	Input 1 of logic	0xC35E	Refer to	0	Unsigned	Real time	Expert	Effective in

	XOR/XNOR module H		"Value"		16 bit	changes	user	real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C3-95	Input 2 of logic XOR/XNOR module H	0xC35F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C3-94"							
	Description: Same as"C3-94"							

C4 Arithmetic Operation

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-00	Input of float absolute value module A	0xC400	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: The output value is equal to the absolute value of the input value. When the input value is negative, the negative input flag of the absolute module is 1, otherwise it is 0. Used to set the input of float absolute value A. 0: Module disabled, with output being 0							

	1...8: Input being corresponding input Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-01	Input of float absolute value module B	0xC401	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Disabled
1: AI1
2: AI2
3: AI3
4: HDI
5: Aim
6: Multi-reference
7: Motor-driven potentiometer
8: PID
0: F-connector

Description:

The output value is equal to the absolute value of the input value. When the input value is negative, the negative input flag of the absolute module is 1, otherwise it is 0.

Used to set the input of float absolute module B.

0: Module disabled, with output being 0

1...8: Input being corresponding input

Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-02	Input of float absolute value module C	0xC402	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Disabled
1: AI1
2: AI2
3: AI3
4: HDI
5: Aim
6: Multi-reference
7: Motor-driven potentiometer
8: PID
0: F-connector

Description:

The output value is equal to the absolute value of the input value. When the input value is negative, the negative input flag of the absolute module is 1, otherwise it is 0.

Used to set the input of float absolute module C.

0: Module disabled, with output being 0

1...8: Input being corresponding input

Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-03	Input of float absolute value module D	0xC403	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

	0： Disabled 1： AI1 2： AI2 3： AI3		4： HDI 5： Aim 6： Multi-reference		7： Motor-driven potentiometer 8： PID 0： F-connector			
	Description： The output value is equal to the absolute value of the input value. When the input value is negative, the negative input flag of the absolute module is 1, otherwise it is 0. Used to set the input of float absolute module D. 0: Module disabled, with output being 0 1...8: Input being corresponding input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-04	Input of float absolute value module E	0xC404	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： Disabled 1： AI1 2： AI2 3： AI3		4： HDI 5： Aim 6： Multi-reference		7： Motor-driven potentiometer 8： PID 0： F-connector			
	Description： The output value is equal to the absolute value of the input value. When the input value is negative, the negative input flag of the absolute module is 1, otherwise it is 0. Used to set the input of float absolute module E. 0: Module disabled, with output being 0 1...8: Input being corresponding input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-05	Input of fixed-point absolute value module F	0xC405	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： Disabled 0： K-connector							
	Description： The output value is equal to the absolute value of the input value. When the input value is negative, the negative input flag of the absolute module is 1, otherwise it is 0. 0: Disabled, with output being 0 Others: Input being connector input							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C4-06	Input of fixed-point absolute value module G	0xC406	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: The output value is equal to the absolute value of the input value. When the input value is negative, the negative input flag of the absolute module is 1, otherwise it is 0. 0: Disabled, with output being 0 Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-07	Input of fixed-point absolute value module H	0xC407	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: The output value is equal to the absolute value of the input value. When the input value is negative, the negative input flag of the absolute module is 1, otherwise it is 0. 0: Disabled, with output being 0 Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-08	Input 1 of float ADD/SUBTRACT module A	0xC408	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: The output O equals the sum of I1, I2, and I3 minus I4. 0: Module disabled, with output being 0 1...8: Input being corresponding input Others: Input being connector input							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C4-09	ADD/SUBTRACT module A input 2 (addition)	0xC409	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-10	ADD/SUBTRACT module A input 3 (addition)	0xC40A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C4-09"							
	Description: Same as"C4-09"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-11	ADD/SUBTRACT module A input 4 (subtraction)	0xC40B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C4-10"							
	Description: Same as"C4-10"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-12	Input 1 of float ADD/SUBTRACT module B	0xC40C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							

	Description: The output O value is the sum of I1, I2, and I3 subtracted by I4. 0: Module disabled, with output being 0 1...8: Input being corresponding terminal input Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-13	ADD/SUBTRACT module B input 2 (addition)	0xC40D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-14	ADD/SUBTRACT module B input 3 (addition)	0xC40E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C4-13"							
	Description: Same as"C4-13"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-15	ADD/SUBTRACT module B input 4 (subtraction)	0xC40F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C4-14"							
	Description: Same as"C4-14"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-16	Input 1 of float ADD/SUBTRACT module	0xC410	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real

	C							time
	Value: 0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: The output O equals the sum of I1, I2, and I3 minus I4. 0: Module disabled 1...8: Input being corresponding terminal input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-17	ADD/SUBTRACT module C input 2 (addition)	0xC411	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-18	ADD/SUBTRACT module C input 3 (addition)	0xC412	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C4-17"							
	Description: Same as"C4-17"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-19	ADD/SUBTRACT module C input 4 (subtraction)	0xC413	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C4-18"							

	Description: Same as"C4-18"

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-20	Input 1 of float ADD/SUBTRACT module D	0xC414	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: The output O equals the sum of I1, I2, and I3 minus I4. 0: Module disabled, with output being 0 1...8: Input being corresponding input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-21	ADD/SUBTRACT module D input 2 (addition)	0xC415	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-22	ADD/SUBTRACT module D input 3 (addition)	0xC416	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C4-21"							
	Description: Same as"C4-21"							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C4-23	ADD/SUBTRACT module D input 4 (subtraction)	0xC417	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-24	Input 1 of float ADD/SUBTRACT module E	0xC418	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: The output O equals the sum of I1, I2, and I3 minus I4. 0: Module disabled, with output being 0 1...8: Input being corresponding input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-25	ADD/SUBTRACT module E input 2 (addition)	0xC419	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input							

	Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-26	ADD/SUBTRACT module E input 3 (addition)	0xC41A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C4-25"							
	Description: Same as"C4-25"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-27	ADD/SUBTRACT module E input 4 (subtraction)	0xC41B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C4-26"							
	Description: Same as"C4-26"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-28	Input 1 of fixed-point ADD/SUBTRACT module F	0xC41C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: The output O equals the sum of I1, I2, and I3 minus I4. 0: Disabled, with output being 0 Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-29	ADD/SUBTRACT module F input 2 (addition)	0xC41D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input value 0							

	Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-30	ADD/SUBTRACT module F input 3 (addition)	0xC41E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input value 0 Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-31	ADD/SUBTRACT module F input 4 (subtraction)	0xC41F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input value 0 Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-32	Input 1 of fixed-point ADD/SUBTRACT module G	0xC420	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: The output O equals the sum of I1, I2, and I3 minus I4. 0: Disabled, with output being 0 Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-33	ADD/SUBTRACT module G input 2 (addition)	0xC421	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value:							

	0： 0 0： K-connector
	Description： 0: Input value 0 Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-34	ADD/SUBTRACT module C input 3 (addition)	0xC422	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： 0 0： K-connector							
	Description： 0: Input value 0 Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-35	ADD/SUBTRACT module C input 4 (subtraction)	0xC423	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： 0 0： K-connector							
	Description： 0: Input value 0 Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-36	Input 1 of fixed-point ADD/SUBTRACT module H	0xC424	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： Disabled 0： K-connector							
	Description： The output O equals the sum of I1, I2, and I3 minus I4. 0: Disabled, with output being 0 Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C4-37	ADD/SUBTRACT module H input 2 (addition)	0xC425	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input value 0 Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-38	ADD/SUBTRACT module H input 3 (addition)	0xC426	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input value 0 Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-39	ADD/SUBTRACT module H input 4 (subtraction)	0xC427	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input value 0 Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-40	Input 1 of float MULTIPLY/DIVIDE module A	0xC428	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							

	Description: When I3 is 0, the output is the product of I1 multiplied by I2. When I3 is set to other options, if the input value of I3 is 0, then the output is 0 and the divisor is zero flag bit which is 1; if the input value of I3 is not 0, the output is the product of I1 x I2/I3, and the divisor is zero flag bit which is 0. 0: Module disabled, with output being 0 1...8: Input being corresponding terminal input Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-41	MULTIPLY/DIVIDE module A input 2 (MULTIPLY)	0xC429	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 1 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 1 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-42	MULTIPLY/DIVIDE module A input 3 (DIVIDE)	0xC42A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 1 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 0: F-connector							
	Description: 0: Input value 1 1...7: Input being corresponding input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-43	Input 1 of float MULTIPLY/DIVIDE module B	0xC42B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AI1 4: HDI 5: Aim 7: Motor-driven potentiometer 8: PID							

	2： AI2	6： Multi-reference	0： F-connector
	3： AI3		

Description：
When I3 is 0, the output is the product of I1 multiplied by I2.
When I3 is set to other options, if the input value of I3 is 0, then the output is 0 and the divisor is zero flag bit which is 1; if the input value of I3 is not 0, the output is the product of I1 x I2/I3, and the divisor is zero flag bit which is 0.
0: Module disabled, with output being 0
1...8: Input being corresponding terminal input
Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-44	MULTIPLY/DIVIDE module B input 2 (MULTIPLY)	0xC42C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value：

0： 1	4： HDI	7： Motor-driven potentiometer
1： AI1	5： Aim	8： PID
2： AI2	6： Multi-reference	0： F-connector
3： AI3		

Description：
0: Input value 1
1...8: Input being corresponding terminal input
Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-45	MULTIPLY/DIVIDE module B input 3 (DIVIDE)	0xC42D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value：
Same as"C4-44"

Description：
Same as"C4-44"

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-46	Input 1 of float MULTIPLY/DIVIDE module C	0xC42E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value：

0： Disabled	4： HDI	7： Motor-driven potentiometer
1： AI1	5： Aim	8： PID
2： AI2	6： Multi-reference	0： F-connector

	3： AI3
	Description： When I3 is 0, the output is the product of I1 multiplied by I2. When I3 is set to other options, if the input value of I3 is 0, then the output is 0 and the divisor is zero flag bit which is 1; if the input value of I3 is not 0, the output is the product of I1 x I2/I3, and the divisor is zero flag bit which is 0. 0: Module disabled, with output being 0 1...8: Input being corresponding terminal input Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-47	MULTIPLY/DIVIDE module C input 2 (MULTIPLY)	0xC42F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： 1 1： AI1 2： AI2 3： AI3 4： HDI 5： Aim 6： Multi-reference 7： Motor-driven potentiometer 8： PID 0： F-connector							
	Description： 0: Input value 1 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-48	MULTIPLY/DIVIDE module C input 3 (DIVIDE)	0xC430	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： Same as"C4-47"							
	Description： Same as"C4-47"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-49	Input 1 of float MULTIPLY/DIVIDE module D	0xC431	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： Disabled 1： AI1 2： AI2 3： AI3 4： HDI 5： Aim 6： Multi-reference 7： Motor-driven potentiometer 8： PID 0： F-connector							

	Description: When I3 is 0, the output is the product of I1 multiplied by I2. When I3 is set to other options, if the input value of I3 is 0, then the output is 0 and the divisor is zero flag bit which is 1; if the input value of I3 is not 0, the output is the product of I1 x I2/I3, and the divisor is zero flag bit which is 0. 0: Module disabled, with output being 0 1...8: Input being corresponding terminal input Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-50	MULTIPLY/DIVIDE module D input 2 (MULTIPLY)	0xC432	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 1 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 1 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-51	MULTIPLY/DIVIDE module D input 3 (DIVIDE)	0xC433	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C4-50"							
	Description: Same as"C4-50"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-52	Input 1 of float MULTIPLY/DIVIDE module E	0xC434	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: When I3 is 0, the output is the product of I1 multiplied by I2.							

	When I3 is set to other options, if the input value of I3 is 0, then the output is 0 and the divisor is zero flag bit which is 1; if the input value of I3 is not 0, the output is the product of I1 x I2/I3, and the divisor is zero flag bit which is 0. 0: Module disabled, with output being 0 1...8: Input being corresponding terminal input Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-53	MULTIPLY/DIVIDE module E input 2 (MULTIPLY)	0xC435	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 1 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 1 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-54	MULTIPLY/DIVIDE module E input 3 (DIVIDE)	0xC436	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C4-53"							
	Description: Same as"C4-53"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-55	Input 1 of fixed-point MULTIPLY/DIVIDE module F	0xC437	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: When I3 is 0, the output is the product of I1 multiplied by I2. When I3 is set to other options, if the input value of I3 is 0, then the output is 0 and the divisor is zero flag bit which is 1; if the input value of I3 is not 0, the output is the product of I1 x I2/I3, and the divisor is zero flag bit which is 0. 0: Disabled, with output being 0							

	Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-56	MULTIPLY/DIVIDE module F input 2 (MULTIPLY)	0xC438	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 1 0: K-connector							
	Description: 0: Input value 1 Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-57	MULTIPLY/DIVIDE module F input 3 (DIVIDE)	0xC439	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 1 0: K-connector							
	Description: 0: Input value 1 Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-58	Input 1 of fixed-point MULTIPLY/DIVIDE module G	0xC43A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: When I3 is 0, the output is the product of I1 multiplied by I2. When I3 is set to other options, if the input value of I3 is 0, then the output is 0 and the divisor is zero flag bit which is 1; if the input value of I3 is not 0, the output is the product of I1 x I2/I3, and the divisor is zero flag bit which is 0. 0: Disabled, with output being 0 Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-59	MULTIPLY/DIVIDE module G input 2	0xC43B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real

	(MULTIPLY)							time
	Value: 0: 1 0: K-connector							
	Description: 0: Input value 1 Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-60	MULTIPLY/DIVIDE module G input 3 (DIVIDE)	0xC43C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 1 0: K-connector							
	Description: 0: Input value 1 Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-61	Input 1 of fixed-point MULTIPLY/DIVIDE module H	0xC43D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: When I3 is 0, the output is the product of I1 multiplied by I2. When I3 is set to other options, if the input value of I3 is 0, then the output is 0 and the divisor is zero flag bit which is 1; if the input value of I3 is not 0, the output is the product of I1 x I2/I3, and the divisor is zero flag bit which is 0. 0: Disabled, with output being 0 Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-62	MULTIPLY/DIVIDE module H input 2 (MULTIPLY)	0xC43E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 1 0: K-connector							
	Description:							

	0: Input value 1 Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-63	MULTIPLY/DIVIDE module H input 3 (DIVIDE)	0xC43F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 1 0: K-connector							
	Description: 0: Input value 1 Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-64	Function of float comparison module A	0xC440	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Module disabled 1: Input 1 > Input 2 2: Input 1 < Input 2 3: Input 1 = Input 2							
	Description: 0: This module is not enabled. 1: Input 1 > Input 2 Before I1 increases from 0 to I2 in the forward direction, the output O keeps low level. When I1 increases to a value higher than I2, the output O changes from low level to high level. When I1 keeps increasing, the output O keeps high level. If I1 decreases, as long as I1 is higher than I2-I3 (hysteresis input), the output O keeps high level. Only when I1 is lower than I2-I3, the output O changes from high level to low level. 2: Input 1 < Input 2 Before I1 increases from 0 to I2+I3 in the forward direction, the output O keeps high level. When I1 increases to a value higher than I2+I3, the output O changes from high level to low level. When I1 keeps increasing, the output O keeps low level. If I1 decreases but keeps higher than I2, the output O keeps low level. Only when I1 is lower than I2, the output O changes from low level to high level. 3: Input 1 = Input 2 When I1 is within the range of I2-I3/2 to I2+I3/2, the output is high level.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-65	Input 1 of float comparison module A	0xC441	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-66	Input 2 of float comparison module A	0xC442	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-67	Hysteresis input of float comparison module A	0xC443	0.00%~655.35%	0.00%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to suppress frequent ON/OFF.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-68	Function of float comparison module B	0xC444	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Module disabled 1: Input 1 > Input 2 2: Input 1 < Input 2 3: Input 1 = Input 2							
	Description:							

	0: This module is not enabled. 1: Input 1 > Input 2 Before I1 increases from 0 to I2 in the forward direction, the output O keeps low level. When I1 increases to a value higher than I2, the output O changes from low level to high level. When I1 keeps increasing, the output O keeps high level. If I1 decreases, as long as I1 is higher than I2-I3 (hysteresis input), the output O keeps high level. Only when I1 is lower than I2-I3, the output O changes from high level to low level. 2: Input 1 < Input 2 Before I1 increases from 0 to I2+I3 in the forward direction, the output O keeps high level. When I1 increases to a value higher than I2+I3, the output O changes from high level to low level. When I1 keeps increasing, the output O keeps low level. If I1 decreases but keeps higher than I2, the output O keeps low level. Only when I1 is lower than I2, the output O changes from low level to high level. 3: Input 1 = Input 2 When I1 is within the range of I2-I3/2 to I2+I3/2, the output is high level.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-69	Input 1 of float comparison module B	0xC445	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-70	Input 2 of float comparison module B	0xC446	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C4-69"							
	Description: Same as"C4-69"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-71	Hysteresis input of float comparison module B	0xC447	0.00%~655.35%	0.00%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description:							

	Used to suppress frequent ON/OFF.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-72	Function of float comparison module C	0xC448	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Module disabled 1: Input 1 > Input 2 2: Input 1 < Input 2 3: Input 1 = Input 2							
	Description: 0: This module is not enabled. 1: Input 1 > Input 2 Before I1 increases from 0 to I2 in the forward direction, the output O keeps low level. When I1 increases to a value higher than I2, the output O changes from low level to high level. When I1 keeps increasing, the output O keeps high level. If I1 decreases, as long as I1 is higher than I2-I3 (hysteresis input), the output O keeps high level. Only when I1 is lower than I2-I3, the output O changes from high level to low level. 2: Input 1 < Input 2 Before I1 increases from 0 to I2+I3 in the forward direction, the output O keeps high level. When I1 increases to a value higher than I2+I3, the output O changes from high level to low level. When I1 keeps increasing, the output O keeps low level. If I1 decreases but keeps higher than I2, the output O keeps low level. Only when I1 is lower than I2, the output O changes from low level to high level. 3: Input 1 = Input 2 When I1 is within the range of I2-I3/2 to I2+I3/2, the output is high level.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-73	Input 1 of float comparison module C	0xC449	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-74	Input 2 of float	0xC44A	Refer to "Value"	0	Unsigned	Real time	Expert	Effective

	comparison module C				16 bit	changes	user	in real time
	Value: Same as"C4-73"							
	Description: Same as"C4-73"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-75	Hysteresis input of float comparison module C	0xC44B	0.00%~655.35%	0.00%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to suppress frequent ON/OFF.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-76	Function of float comparison module D	0xC44C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Module disabled 1: Input 1 > Input 2 2: Input 1 < Input 2 3: Input 1 = Input 2							
	Description: 0: This module is not enabled. 1: Input 1 > Input 2 Before I1 increases from 0 to I2 in the forward direction, the output O keeps low level. When I1 increases to a value higher than I2, the output O changes from low level to high level. When I1 keeps increasing, the output O keeps high level. If I1 decreases, as long as I1 is higher than I2-I3 (hysteresis input), the output O keeps high level. Only when I1 is lower than I2-I3, the output O changes from high level to low level. 2: Input 1 < Input 2 Before I1 increases from 0 to I2+I3 in the forward direction, the output O keeps high level. When I1 increases to a value higher than I2+I3, the output O changes from high level to low level. When I1 keeps increasing, the output O keeps low level. If I1 decreases but keeps higher than I2, the output O keeps low level. Only when I1 is lower than I2, the output O changes from low level to high level. 3: Input 1 = Input 2 When I1 is within the range of I2-I3/2 to I2+I3/2, the output is high level.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-77	Input 1 of float comparison module D	0xC44D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Value: 0: 0 4: HDI 7: Motor-driven potentiometer 1: AI1 5: Aim 8: PID 2: AI2 6: Multi-reference 0: F-connector 3: AI3
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-78	Input 2 of float comparison module D	0xC44E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C4-77"							
	Description: Same as"C4-77"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-79	Hysteresis input of float comparison module D	0xC44F	0.00%~655.35%	0.00%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to suppress frequent ON/OFF.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-80	Function of fixed-point comparison module E	0xC450	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Module disabled 1: Input 1 > Input 2 2: Input 1 < Input 2 3: Input 1 = Input 2							
	Description: 0: This module is not enabled. 1: Input 1 > Input 2 Before I1 increases from 0 to I2 in the forward direction, the output O keeps low level. When I1 increases to a value higher than I2, the output O changes from low level to high level. When I1 keeps increasing, the output O keeps high level. If I1 decreases, as long as I1 is higher than I2-I3 (hysteresis input), the output O keeps high level. Only when I1 is lower than I2-I3, the output O changes from high level to low level.							

	2: Input 1 < Input 2 Before I1 increases from 0 to I2+I3 in the forward direction, the output O keeps high level. When I1 increases to a value higher than I2+I3, the output O changes from high level to low level. When I1 keeps increasing, the output O keeps low level. If I1 decreases but keeps higher than I2, the output O keeps low level. Only when I1 is lower than I2, the output O changes from low level to high level. 3: Input 1 = Input 2 When I1 is within the range of I2-I3/2 to I2+I3/2, the output is high level.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-81	Input 1 of fixed-point comparison module E	0xC451	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input value 0 Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-82	Input 2 of fixed-point comparison module E	0xC452	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input value 0 Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-83	Hysteresis input of fixed-point comparison module E	0xC453	0.00%~655.35%	0.00%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to suppress frequent ON/OFF.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-84	Function of fixed-point comparison module F	0xC454	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Value: 0: Module disabled 1: Input 1 > Input 2 2: Input 1 < Input 2 3: Input 1 = Input 2
	Description: 0: This module is not enabled. 1: Input 1 > Input 2 Before I1 increases from 0 to I2 in the forward direction, the output O keeps low level. When I1 increases to a value higher than I2, the output O changes from low level to high level. When I1 keeps increasing, the output O keeps high level. If I1 decreases, as long as I1 is higher than I2-I3 (hysteresis input), the output O keeps high level. Only when I1 is lower than I2-I3, the output O changes from high level to low level. 2: Input 1 < Input 2 Before I1 increases from 0 to I2+I3 in the forward direction, the output O keeps high level. When I1 increases to a value higher than I2+I3, the output O changes from high level to low level. When I1 keeps increasing, the output O keeps low level. If I1 decreases but keeps higher than I2, the output O keeps low level. Only when I1 is lower than I2, the output O changes from low level to high level. 3: Input 1 = Input 2 When I1 is within the range of I2-I3/2 to I2+I3/2, the output is high level.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-85	Input 1 of fixed-point comparison module F	0xC455	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input value 0 Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-86	Input 2 of fixed-point comparison module F	0xC456	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input value 0 Others: Input being connector input							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C4-87	Hysteresis input of fixed-point comparison module F	0xC457	0.00%~655.35%	0.00%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to suppress frequent ON/OFF.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-88	Function of fixed-point comparison module G	0xC458	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Module disabled 1: Input 1 > Input 2 2: Input 1 < Input 2 3: Input 1 = Input 2							
	Description: 0: This module is not enabled. 1: Input 1 > Input 2 Before I1 increases from 0 to I2 in the forward direction, the output O keeps low level. When I1 increases to a value higher than I2, the output O changes from low level to high level. When I1 keeps increasing, the output O keeps high level. If I1 decreases, as long as I1 is higher than I2-I3 (hysteresis input), the output O keeps high level. Only when I1 is lower than I2-I3, the output O changes from high level to low level. 2: Input 1 < Input 2 Before I1 increases from 0 to I2+I3 in the forward direction, the output O keeps high level. When I1 increases to a value higher than I2+I3, the output O changes from high level to low level. When I1 keeps increasing, the output O keeps low level. If I1 decreases but keeps higher than I2, the output O keeps low level. Only when I1 is lower than I2, the output O changes from low level to high level. 3: Input 1 = Input 2 When I1 is within the range of I2-I3/2 to I2+I3/2, the output is high level.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-89	Input 1 of fixed-point comparison module G	0xC459	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input value 0 Others: Input being connector input							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C4-90	Input 2 of fixed-point comparison module G	0xC45A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input value 0 Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-91	Hysteresis input of fixed-point comparison module G	0xC45B	0.00%~655.35%	0.00%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to suppress frequent ON/OFF.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-92	Function of fixed-point comparison module H	0xC45C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Module disabled 1: Input 1 > Input 2 2: Input 1 < Input 2 3: Input 1 = Input 2							
	Description: 0: This module is not enabled. 1: Input 1 > Input 2 Before I1 increases from 0 to I2 in the forward direction, the output O keeps low level. When I1 increases to a value higher than I2, the output O changes from low level to high level. When I1 keeps increasing, the output O keeps high level. If I1 decreases, as long as I1 is higher than I2-I3 (hysteresis input), the output O keeps high level. Only when I1 is lower than I2-I3, the output O changes from high level to low level. 2: Input 1 < Input 2 Before I1 increases from 0 to I2+I3 in the forward direction, the output O keeps high level. When I1 increases to a value higher than I2+I3, the output O changes from high level to low level. When I1 keeps increasing, the output O keeps low level. If I1 decreases but keeps higher than I2, the output O keeps low level. Only when I1 is lower than I2, the output O changes from low level to high level. 3: Input 1 = Input 2 When I1 is within the range of I2-I3/2 to I2+I3/2, the output is high level.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C4-93	Input 1 of fixed-point comparison module H	0xC45D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input value 0 Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-94	Input 2 of fixed-point comparison module H	0xC45E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input value 0 Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C4-95	Hysteresis input of fixed-point comparison module H	0xC45F	0.00%~655.35%	0.00%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to suppress frequent ON/OFF.							

C5 Switch Function

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-00	Input source of binary selector module A	0xC500	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 7: DI5 8: DI6 9: DI7 10: DI8 14: DI12 15: DI13 16: DI14 17: DI15							

	4: DI2 5: DI3 6: DI4		11: DI9 12: DI10 13: DI11			18: DI16 0: B-connector		
	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module input and the corresponding 1/2 is taken as module output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-01	Input 1 of binary selector module A	0xC501	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4		7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11			14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector		
	Description: 0: The module input value is 0. 1: The module input value is 1. 2: The module input value is 0. 3...18: The module input value is the DI input value. Others module input values are the input values of corresponding connector.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-02	Input 2 of binary selector module A	0xC502	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4		7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11			14: DI12 15: DI13 16: DI14 17: DI15 18: DI21 0: B-connector		
	Description: 0: The module input value is 0. 1: The module input value is 1.							

	2: The module input value is 0. 3...18: The module input value is the DI input value. Others module input values are the input values of corresponding connector.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-03	Input source of binary selector module B	0xC503	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Disabled	7: DI5	14: DI12
1: Logic 1	8: DI6	15: DI13
2: Logic 0	9: DI7	16: DI14
3: DI1	10: DI8	17: DI15
4: DI2	11: DI9	18: DI16
5: DI3	12: DI10	0: B-connector
6: DI4	13: DI11	

Description:

0: This module is not enabled.

1: This module takes input 2 as output.

2: This module takes input 1 as output.

3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output.

Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-04	Input 1 of binary selector module B	0xC504	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Logic 0	7: DI5	14: DI12
1: Logic 1	8: DI6	15: DI13
2: Logic 0	9: DI7	16: DI14
3: DI1	10: DI8	17: DI15
4: DI2	11: DI9	18: DI16
5: DI3	12: DI10	0: B-connector
6: DI4	13: DI11	

Description:

0: The module input value is 0.

1: The module input value is 1.

2: The module input value is 0.

3...18: The module input value is the DI input value.

Others module input values are the input values of corresponding connector.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-05	Input 2 of binary	0xC505	Refer to	0	Unsigned	Real time	Expert	Effective in

	selector module B		"Value"		16 bit	changes	user	real time
	Value: 0: Logic 0 7: DI5 14: DI12 1: Logic 1 8: DI6 15: DI13 2: Logic 0 9: DI7 16: DI14 3: DI1 10: DI8 17: DI15 4: DI2 11: DI9 18: DI21 5: DI3 12: DI10 0: B-connector 6: DI4 13: DI11							
	Description: 0: The module input value is 0. 1: The module input value is 1. 2: The module input value is 0. 3...18: The module input value is the DI input value. Others module input values are the input values of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-06	Input source of binary selector module C	0xC506	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 7: DI5 14: DI12 1: Logic 1 8: DI6 15: DI13 2: Logic 0 9: DI7 16: DI14 3: DI1 10: DI8 17: DI15 4: DI2 11: DI9 18: DI16 5: DI3 12: DI10 0: B-connector 6: DI4 13: DI11							
	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-07	Input 1 of binary selector module C	0xC507	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 7: DI5 14: DI12 1: Logic 1 8: DI6 15: DI13 2: Logic 0 9: DI7 16: DI14 3: DI1 10: DI8 17: DI15							

	4： DI2 5： DI3 6： DI4		11： DI9 12： DI10 13： DI11			18： DI16 0： B-connector		
	Description： 0: The module input value is 0. 1: The module input value is 1. 2: The module input value is 0. 3...18: The module input value is the DI input value. Others module input values are the input values of corresponding connector.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-08	Input 2 of binary selector module C	0xC508	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： Logic 0 1： Logic 1 2： Logic 0 3： DI1 4： DI2 5： DI3 6： DI4		7： DI5 8： DI6 9： DI7 10： DI8 11： DI9 12： DI10 13： DI11			14： DI12 15： DI13 16： DI14 17： DI15 18： DI21 0： B-connector		
	Description： 0: The module input value is 0. 1: The module input value is 1. 2: The module input value is 0. 3...18: The module input value is the DI input value. Others module input values are the input values of corresponding connector.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-09	Input source of binary selector module D	0xC509	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： Disabled 1： Logic 1 2： Logic 0 3： DI1 4： DI2 5： DI3 6： DI4		7： DI5 8： DI6 9： DI7 10： DI8 11： DI9 12： DI10 13： DI11			14： DI12 15： DI13 16： DI14 17： DI15 18： DI16 0： B-connector		
	Description： 0: This module is not enabled. 1: This module takes input 2 as output.							

	2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-10	Input 1 of binary selector module D	0xC50A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: The module input value is 0. 1: The module input value is 1. 2: The module input value is 0. 3...18: The module input value is the DI input value. Others module input values are the input values of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-11	Input 2 of binary selector module D	0xC50B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI21 0: B-connector							
	Description: 0: The module input value is 0. 1: The module input value is 1. 2: The module input value is 0. 3...18: The module input value is the DI input value. Others module input values are the input values of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-12	Input source of binary	0xC50C	Refer to	0	Unsigned	Real time	Expert	Effective in

	selector module E		"Value"		16 bit	changes	user	real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-13	Input 1 of binary selector module E	0xC50D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: The module input value is 0. 1: The module input value is 1. 2: The module input value is 0. 3...18: The module input value is the DI input value. Others module input values are the input values of corresponding connector.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-14	Input 2 of binary selector module E	0xC50E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 7: DI5 8: DI6 9: DI7 10: DI8 14: DI12 15: DI13 16: DI14 17: DI15							

	4： DI2 5： DI3 6： DI4		11： DI9 12： DI10 13： DI11			18： DI21 0： B-connector		
	Description： 0: The module input value is 0. 1: The module input value is 1. 2: The module input value is 0. 3...18: The module input value is the DI input value. Others module input values are the input values of corresponding connector.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-15	Input source of binary selector module F	0xC50F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： Disabled 1： Logic 1 2： Logic 0 3： DI1 4： DI2 5： DI3 6： DI4		7： DI5 8： DI6 9： DI7 10： DI8 11： DI9 12： DI10 13： DI11			14： DI12 15： DI13 16： DI14 17： DI15 18： DI16 0： B-connector		
	Description： 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-16	Input 1 of binary selector module F	0xC510	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： Logic 0 1： Logic 1 2： Logic 0 3： DI1 4： DI2 5： DI3 6： DI4		7： DI5 8： DI6 9： DI7 10： DI8 11： DI9 12： DI10 13： DI11			14： DI12 15： DI13 16： DI14 17： DI15 18： DI16 0： B-connector		
	Description： 0: The module input value is 0. 1: The module input value is 1.							

	2: The module input value is 0. 3...18: The module input value is the DI input value. Others module input values are the input values of corresponding connector.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-17	Input 2 of binary selector module F	0xC511	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Logic 0	7: DI5	14: DI12
1: Logic 1	8: DI6	15: DI13
2: Logic 0	9: DI7	16: DI14
3: DI1	10: DI8	17: DI15
4: DI2	11: DI9	18: DI21
5: DI3	12: DI10	0: B-connector
6: DI4	13: DI11	

Description:

0: The module input value is 0.

1: The module input value is 1.

2: The module input value is 0.

3...18: The module input value is the DI input value.

Others module input values are the input values of corresponding connector.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-18	Input source of binary selector module G	0xC512	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Disabled	7: DI5	14: DI12
1: Logic 1	8: DI6	15: DI13
2: Logic 0	9: DI7	16: DI14
3: DI1	10: DI8	17: DI15
4: DI2	11: DI9	18: DI16
5: DI3	12: DI10	0: B-connector
6: DI4	13: DI11	

Description:

0: This module is not enabled.

1: This module takes input 2 as output.

2: This module takes input 1 as output.

3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output.

Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-19	Input 1 of binary	0xC513	Refer to	0	Unsigned	Real time	Expert	Effective in

	selector module G		"Value"		16 bit	changes	user	real time
	Value: 0: Logic 0 7: DI5 14: DI12 1: Logic 1 8: DI6 15: DI13 2: Logic 0 9: DI7 16: DI14 3: DI1 10: DI8 17: DI15 4: DI2 11: DI9 18: DI16 5: DI3 12: DI10 0: B-connector 6: DI4 13: DI11							
	Description: 0: The module input value is 0. 1: The module input value is 1. 2: The module input value is 0. 3...18: The module input value is the DI input value. Others module input values are the input values of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-20	Input 2 of binary selector module G	0xC514	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 7: DI5 14: DI12 1: Logic 1 8: DI6 15: DI13 2: Logic 0 9: DI7 16: DI14 3: DI1 10: DI8 17: DI15 4: DI2 11: DI9 18: DI21 5: DI3 12: DI10 0: B-connector 6: DI4 13: DI11							
	Description: 0: The module input value is 0. 1: The module input value is 1. 2: The module input value is 0. 3...18: The module input value is the DI input value. Others module input values are the input values of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-21	Input source of binary selector module H	0xC515	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 7: DI5 14: DI12 1: Logic 1 8: DI6 15: DI13 2: Logic 0 9: DI7 16: DI14 3: DI1 10: DI8 17: DI15							

	4: DI2	11: DI9	18: DI16
	5: DI3	12: DI10	0: B-connector
	6: DI4	13: DI11	

Description:

0: This module is not enabled.

1: This module takes input 2 as output.

2: This module takes input 1 as output.

3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output.

Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-22	Input 1 of binary selector module H	0xC516	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Logic 0	7: DI5	14: DI12
1: Logic 1	8: DI6	15: DI13
2: Logic 0	9: DI7	16: DI14
3: DI1	10: DI8	17: DI15
4: DI2	11: DI9	18: DI16
5: DI3	12: DI10	0: B-connector
6: DI4	13: DI11	

Description:

0: The module input value is 0.

1: The module input value is 1.

2: The module input value is 0.

3...18: The module input value is the DI input value.

Others module input values are the input values of corresponding connector.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-23	Input 2 of binary selector module H	0xC517	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

0: Logic 0	7: DI5	14: DI12
1: Logic 1	8: DI6	15: DI13
2: Logic 0	9: DI7	16: DI14
3: DI1	10: DI8	17: DI15
4: DI2	11: DI9	18: DI21
5: DI3	12: DI10	0: B-connector
6: DI4	13: DI11	

Description:

0: The module input value is 0.

1: The module input value is 1.

	2: The module input value is 0. 3...18: The module input value is the DI input value. Others module input values are the input values of corresponding connector.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-24	Input source of word selector module A	0xC518	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-25	Input 1 of word selector module A	0xC519	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: The module input value is 0. Others: The module input value is the input value of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-26	Input 2 of word selector module A	0xC51A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: The module input value is 0. Others: The module input value is the input value of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-27	Input source of word selector module B	0xC51B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-28	Input 1 of word selector module B	0xC51C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: The module input value is 0. Others: The module input value is the input value of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-29	Input 2 of word selector module B	0xC51D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: The module input value is 0. Others: The module input value is the input value of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-30	Input source of word	0xC51E	Refer to	0	Unsigned	Real time	Expert	Effective in

	selector module C		"Value"		16 bit	changes	user	real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-31	Input 1 of word selector module C	0xC51F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: The module input value is 0. Others: The module input value is the input value of corresponding connector.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-32	Input 2 of word selector module C	0xC520	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: The module input value is 0. Others: The module input value is the input value of corresponding connector.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-33	Input source of word selector module D	0xC521	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 7: DI5 14: DI12							

	1: Logic 1	8: DI6	15: DI13
	2: Logic 0	9: DI7	16: DI14
	3: DI1	10: DI8	17: DI15
	4: DI2	11: DI9	18: DI16
	5: DI3	12: DI10	0: B-connector
	6: DI4	13: DI11	
	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.		

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-34	Input 1 of word selector module D	0xC522	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: The module input value is 0. Others: The module input value is the input value of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-35	Input 2 of word selector module D	0xC523	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: The module input value is 0. Others: The module input value is the input value of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-36	Input source of DWord selector module A	0xC524	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 7: DI5 8: DI6 9: DI7 10: DI8 14: DI12 15: DI13 16: DI14 17: DI15							

	4： DI2 5： DI3 6： DI4		11： DI9 12： DI10 13： DI11		18： DI16 0： B-connector			
	Description： 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-37	Input 1 of DWord selector module A	0xC525	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： 0 0： K-connector							
	Description： 0: The module input value is 0. Others: The module input value is the input value of corresponding connector.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-38	Input 2 of DWord selector module A	0xC526	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： 0 0： K-connector							
	Description： 0: The module input value is 0. Others: The module input value is the input value of corresponding connector.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-39	Input source of DWord selector module B	0xC527	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： Disabled 1： Logic 1 2： Logic 0 3： DI1 4： DI2 5： DI3 6： DI4		7： DI5 8： DI6 9： DI7 10： DI8 11： DI9 12： DI10 13： DI11		14： DI12 15： DI13 16： DI14 17： DI15 18： DI16 0： B-connector			

	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-40	Input 1 of DWord selector module B	0xC528	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: The module input value is 0. Others: The module input value is the input value of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-41	Input 2 of DWord selector module B	0xC529	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: The module input value is 0. Others: The module input value is the input value of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-42	Input source of DWord selector module C	0xC52A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: This module takes input 2 as output.							

	2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-43	Input 1 of DWord selector module C	0xC52B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: The module input value is 0. Others: The module input value is the input value of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-44	Input 2 of DWord selector module C	0xC52C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: The module input value is 0. Others: The module input value is the input value of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-45	Input source of DWord selector module D	0xC52D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-46	Input 1 of DWord selector module D	0xC52E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: The module input value is 0. Others: The module input value is the input value of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-47	Input 2 of DWord selector module D	0xC52F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: The module input value is 0. Others: The module input value is the input value of corresponding connector.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-48	Input source of float number selector module A	0xC530	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C5-49	Input 1 of float number selector module A	0xC531	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-50	Input 2 of float number selector module A	0xC532	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C5-49"							
	Description: Same as"C5-49"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-51	Input source of float number selector module B	0xC533	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C5-52	Input 1 of float number selector module B	0xC534	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-53	Input 2 of float number selector module B	0xC535	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C5-52"							
	Description: Same as"C5-52"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-54	Input source of float number selector module C	0xC536	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C5-55	Input 1 of float number selector module C	0xC537	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-56	Input 2 of float number selector module C	0xC538	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C5-55"							
	Description: Same as"C5-55"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-57	Input source of float number selector module D	0xC539	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C5-58	Input 1 of float number selector module D	0xC53A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-59	Input 2 of float number selector module D	0xC53B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C5-58"							
	Description: Same as"C5-58"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-60	Input source of float number selector module E	0xC53C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C5-61	Input 1 of float number selector module E	0xC53D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-62	Input 2 of float number selector module E	0xC53E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C5-61"							
	Description: Same as"C5-61"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-63	Input source of float number selector module F	0xC53F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C5-64	Input 1 of float number selector module F	0xC540	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-65	Input 2 of float number selector module F	0xC541	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C5-64"							
	Description: Same as"C5-64"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-66	Input source of float number selector module G	0xC542	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C5-67	Input 1 of float number selector module G	0xC543	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-68	Input 2 of float number selector module G	0xC544	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C5-67"							
	Description: Same as"C5-67"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-69	Input source of float number selector module H	0xC545	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: This module takes input 2 as output. 2: This module takes input 1 as output. 3 to 18: The current DI value is taken as module input and the corresponding input 1/2 is taken as module output. Others: The connector value is taken as module put and the corresponding 1/2 is taken as module output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C5-70	Input 1 of float number selector module H	0xC546	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C5-71	Input 2 of float number selector module H	0xC547	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C5-70"							
	Description: Same as"C5-70"							

C6 Control Function

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-00	Floating-point filter module A enable	0xC600	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Module disabled 1: Filter disabled 2: Filter enabled 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: The filter is not enabled. 2: The filter is enabled. 3...18: When the DI input is 0, the filter is enabled. When the DI input is 1, the filter is not enabled.							

	Others: When the connector input is 0, the filter is enabled. When the connector input is 1, the filter is not enabled.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-01	Input of float filter module A	0xC601	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-02	Filter time of filter module A	0xC602	0.002s~65.535s	0.002s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to the filter time of current module. By default, the filter time is 2 ms, indicating that no filtering is performed. If the value is higher than 2 ms, the filtering effect is generated.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-03	Floating-point filter module B enable	0xC603	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Module disabled 1: Filter disabled 2: Filter enabled 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: The filter is not enabled. 2: The filter is enabled. 3...18: When the DI input is 0, the filter is enabled. When the DI input is 1, the filter is not enabled. Others: When the connector input is 0, the filter is enabled. When the connector input is 1, the filter is not enabled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C6-04	Input of float filter module B	0xC604	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-05	Filter time of filter module B	0xC605	0.002s~65.535s	0.002s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to the filter time of current module. By default, the filter time is 2 ms, indicating that no filtering is performed. If the value is higher than 2 ms, the filtering effect is generated.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-06	Floating-point filter module C enable	0xC606	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Module disabled 1: Filter disabled 2: Filter enabled 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: The filter is not enabled. 2: The filter is enabled. 3...18: When the DI input is 0, the filter is enabled. When the DI input is 1, the filter is not enabled. Others: When the connector input is 0, the filter is enabled. When the connector input is 1, the filter is not enabled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-07	Input of float filter module C	0xC607	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value:							

	0: 0 1: AI1 2: AI2 3: AI3		4: HDI 5: Aim 6: Multi-reference		7: Motor-driven potentiometer 8: PID 0: F-connector			
	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-08	Filter time of filter module C	0xC608	0.002s~65.535s	0.002s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to the filter time of current module. By default, the filter time is 2 ms, indicating that no filtering is performed. If the value is higher than 2 ms, the filtering effect is generated.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-09	Floating-point filter module D enable	0xC609	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Module disabled 1: Filter disabled 2: Filter enabled 3: DI1 4: DI2 5: DI3 6: DI4		7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11		14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector			
	Description: 0: This module is not enabled. 1: The filter is not enabled. 2: The filter is enabled. 3...18: When the DI input is 0, the filter is enabled. When the DI input is 1, the filter is not enabled. Others: When the connector input is 0, the filter is enabled. When the connector input is 1, the filter is not enabled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-10	Input of float filter module D	0xC60A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3		4: HDI 5: Aim 6: Multi-reference		7: Motor-driven potentiometer 8: PID 0: F-connector			

	Description: 0: Input value 0 1...8: Input being corresponding terminal input Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-11	Filter time of filter module D	0xC60B	0.002s~65.535s	0.002s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to the filter time of current module. By default, the filter time is 2 ms, indicating that no filtering is performed. If the value is higher than 2 ms, the filtering effect is generated.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-12	Fixed-point filter module E enable	0xC60C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Module disabled 1: Filter disabled 2: Filter enabled 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: The filter is not enabled. 2: The filter is enabled. 3...18: When the DI input is 0, the filter is enabled. When the DI input is 1, the filter is not enabled. Others: When the connector input is 0, the filter is enabled. When the connector input is 1, the filter is not enabled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-13	Input of fixed-point filter module E	0xC60D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input value 0 Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C6-14	Filter time of fixed-point filter module E	0xC60E	0.002s~65.535s	0.002s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to the filter time of current module. By default, the filter time is 2 ms, indicating that no filtering is performed. If the value is higher than 2 ms, the filtering effect is generated.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-15	Fixed-point filter module F enable	0xC60F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Module disabled 1: Filter disabled 2: Filter enabled 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: This module is not enabled. 1: The filter is not enabled. 2: The filter is enabled. 3...18: When the DI input is 0, the filter is enabled. When the DI input is 1, the filter is not enabled. Others: When the connector input is 0, the filter is enabled. When the connector input is 1, the filter is not enabled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-16	Input of fixed-point filter module F	0xC610	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 0: K-connector							
	Description: 0: Input value 0 Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-17	Filter time of fixed-point filter module F	0xC611	0.002s~65.535s	0.002s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to the filter time of current module. By default, the filter time is 2 ms, indicating that no filtering is performed. If the value is higher than 2 ms, the filtering effect is generated.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C6-24	Function of level-to-pulse conversion module A	0xC618	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Conversion from level to pulse 2: Conversion from pulse to level							
	Description: 0: Disable 1: Level to pulse 2: Pulse to level							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-25	Input of level-to-pulse conversion module A	0xC619	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-26	Pulse width of level-to-pulse conversion module A	0xC61A	0.00s~655.35s	0.00s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the pulse width after the level is converted to pulse.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-27	Function of level-to-pulse conversion	0xC61B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	module B							
	Value: 0: Disabled 1: Conversion from level to pulse 2: Conversion from pulse to level							
	Description: 0: Disable 1: Level to pulse 2: Pulse to level							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-28	Input of level-to-pulse conversion module B	0xC61C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-29	Pulse width of level-to-pulse conversion module B	0xC61D	0.00s~655.35s	0.00s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the pulse width after the level is converted to pulse.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-30	Function of level-to-pulse conversion module C	0xC61E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value:							

	0： Disabled 1： Conversion from level to pulse 2： Conversion from pulse to level
	Description： 0: Disable 1: Level to pulse 2: Pulse to level

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-31	Input of level-to-pulse conversion module C	0xC61F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： Logic 0 1： Logic 1 2： Logic 0 3： DI1 4： DI2 5： DI3 6： DI4 7： DI5 8： DI6 9： DI7 10： DI8 11： DI9 12： DI10 13： DI11 14： DI12 15： DI13 16： DI14 17： DI15 18： DI16 0： B-connector							
	Description： 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-32	Pulse width of level-to-pulse conversion module C	0xC620	0.00s~655.35s	0.00s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： Used to set the pulse width after the level is converted to pulse.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-33	Function of level-to-pulse conversion module D	0xC621	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value： 0： Disabled 1： Conversion from level to pulse 2： Conversion from pulse to level							

	Description: 0: Disable 1: Level to pulse 2: Pulse to level

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-34	Input of level-to-pulse conversion module D	0xC622	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Logic 0 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Input 0 1: Input 1 2: Input 0 3...18: Input being corresponding terminal input Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-35	Pulse width of level-to-pulse conversion module D	0xC623	0.00s~655.35s	0.00s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the pulse width after the level is converted to pulse.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-36	Input of float limiting module A	0xC624	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Module disabled 1...8: Input being corresponding terminal input							

	Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-37	Upper limit of float limiting module A	0xC625	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: Upper limit of current module 0: No upper limit 1...8: Input being corresponding input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-38	Lower limit of float limiting module A	0xC626	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: Lower limit of current module 0: No lower limit 1...8: Input being corresponding input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-39	Input of float limiting module B	0xC627	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Module disabled 1...8: Input being corresponding terminal input							

	Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-40	Upper limit of float limiting module B	0xC628	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: Upper limit of current module 0: No upper limit 1...8: Input being corresponding input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-41	Lower limit of float limiting module B	0xC629	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: Lower limit of current module 0: No lower limit 1...8: Input being corresponding input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-42	Input of float limiting module C	0xC62A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Module disabled 1...8: Input being corresponding terminal input							

	Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-43	Upper limit of float limiting module C	0xC62B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: Upper limit of current module 0: No upper limit 1...8: Input being corresponding input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-44	Lower limit of float limiting module C	0xC62C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: Lower limit of current module 0: No lower limit 1...8: Input being corresponding input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-45	Input of float limiting module D	0xC62D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: 0: Module disabled 1...8: Input being corresponding terminal input							

	Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-46	Upper limit of float limiting module D	0xC62E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: Upper limit of current module 0: No upper limit 1...8: Input being corresponding input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-47	Lower limit of float limiting module D	0xC62F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 3: AI3 4: HDI 5: Aim 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: Lower limit of current module 0: No lower limit 1...8: Input being corresponding input Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-48	Input of fixed-point limiting module E	0xC630	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: 0: Module disabled Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C6-49	Upper limit of fixed-point limiting module E	0xC631	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 0: K-connector							
	Description: Upper limit of current module 0: No upper limit amplitude Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-50	Lower limit of fixed-point limiting module E	0xC632	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 0: K-connector							
	Description: Lower limit of current module 0: No lower limit amplitude Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-51	Input of fixed-point limiting module F	0xC633	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: K-connector							
	Description: 0: Module disabled Others: Input being connector input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-52	Upper limit of fixed-point limiting module F	0xC634	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 0: K-connector							
	Description:							

	Upper limit of current module Upper limit amplitude of current module 0: No upper limit amplitude Others: Input being connector input

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-53	Lower limit of fixed-point limiting module F	0xC635	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Inactive 0: K-connector							
	Description: Lower limit of current module 0: No lower limit amplitude Others: Input being connector input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-54	Input of logic delay module A	0xC636	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Logic 1 2: Logic 0 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 0: B-connector							
	Description: 0: Module disabled 1: Module input value being 1 2: Module input value being 0 3...18: Module input value being DI value Others: Module input value being connector value							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-55	Switch-on delay of logic delay module A	0xC637	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the time difference for input value to change from 0 to 1 and output value to change from 0 to 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C6-56	Switch-off delay of logic delay module A	0xC638	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the time difference for input value to change from 1 to 0 and output value to change from 1 to 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-57	Delay time unit of logic delay module A	0xC639	0~12000	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The delay time unit corresponds to the following relation, that is, unit 1 indicates 10 ms. 0: No delay 1: 10 ms 10: 100 ms 100: 1s 1000: 10s 6000: 1 min. 12000: 2 min.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-58	Input of logic delay module B	0xC63A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C6-54"							
	Description: Same as"C6-54"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-59	Switch-on delay of logic delay module B	0xC63B	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the time difference for input value to change from 0 to 1 and output value to change from 0 to 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-60	Switch-off delay of logic delay module B	0xC63C	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the time difference for input value to change from 1 to 0 and output value to change from 1 to 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-61	Delay time unit of logic delay module B	0xC63D	0~12000	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: The delay time unit corresponds to the following relation, that is, unit 1 indicates 10 ms. 0: No delay 1: 10 ms 10: 100 ms 100: 1s 1000: 10s 6000: 1 min. 12000: 2 min.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-62	Input of logic delay module C	0xC63E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C6-58"							
	Description: Same as"C6-58"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-63	Switch-on delay of logic delay module C	0xC63F	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the time difference for input value to change from 0 to 1 and output value to change from 0 to 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-64	Switch-off delay of logic delay module C	0xC640	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the time difference for input value to change from 1 to 0 and output value to change from 1 to 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-65	Delay time unit of logic delay module C	0xC641	0~12000	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The delay time unit corresponds to the following relation, that is, unit 1 indicates 10 ms. 0: No delay 1: 10 ms 10: 100 ms 100: 1s 1000: 10s 6000: 1 min. 12000: 2 min.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-66	Input of logic delay module D	0xC642	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C6-62"							
	Description: Same as"C6-62"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-67	Switch-on delay of logic delay module D	0xC643	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the time difference for input value to change from 0 to 1 and output value to change from 0 to 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-68	Switch-off delay of logic delay module D	0xC644	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the time difference for input value to change from 1 to 0 and output value to change from 1 to 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-69	Delay time unit of logic delay module D	0xC645	0~12000	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The delay time unit corresponds to the following relation, that is, unit 1 indicates 10 ms. 0: No delay 1: 10 ms 10: 100 ms 100: 1s 1000: 10s 6000: 1 min. 12000: 2 min.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-70	Input of logic delay module E	0xC646	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C6-66"							
	Description: Same as"C6-66"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-71	Switch-on delay of logic delay module E	0xC647	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the time difference for input value to change from 0 to 1 and output value to change from 0 to 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-72	Switch-off delay of logic delay module E	0xC648	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the time difference for input value to change from 1 to 0 and output value to change from 1 to 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-73	Delay time unit of logic delay module E	0xC649	0~12000	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The delay time unit corresponds to the following relation, that is, unit 1 indicates 10 ms. 0: No delay 1: 10 ms 10: 100 ms 100: 1s 1000: 10s 6000: 1 min. 12000: 2 min.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-74	Input of logic delay module F	0xC64A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C6-70"							
	Description: Same as"C6-70"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-75	Switch-on delay of logic delay module F	0xC64B	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the time difference for input value to change from 0 to 1 and output value to change from 0 to 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C6-76	Switch-off delay of logic delay module F	0xC64C	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the time difference for input value to change from 1 to 0 and output value to change from 1 to 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-77	Delay time unit of logic delay module F	0xC64D	0~12000	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The delay time unit corresponds to the following relation, that is, unit 1 indicates 10 ms. 0: No delay 1: 10 ms 10: 100 ms 100: 1s 1000: 10s 6000: 1 min. 12000: 2 min.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-78	Input of logic delay module G	0xC64E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C6-74"							
	Description: Same as"C6-74"							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-79	Switch-on delay of logic delay module G	0xC64F	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the time difference for input value to change from 0 to 1 and output value to change from 0 to 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-80	Switch-off delay of logic delay module G	0xC650	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the time difference for input value to change from 1 to 0 and output value to change from 1 to 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-81	Delay time unit of logic delay module G	0xC651	0~12000	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: The delay time unit corresponds to the following relation, that is, unit 1 indicates 10 ms. 0: No delay 1: 10 ms 10: 100 ms 100: 1s 1000: 10s 6000: 1 min. 12000: 2 min.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-82	Input of logic delay module H	0xC652	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Same as"C6-78"							
	Description: Same as"C6-78"							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-83	Switch-on delay of logic delay module H	0xC653	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the time difference for input value to change from 0 to 1 and output value to change from 0 to 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-84	Switch-off delay of logic delay module H	0xC654	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the time difference for input value to change from 1 to 0 and output value to change from 1 to 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C6-85	Delay time unit of logic delay module H	0xC655	0~12000	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The delay time unit corresponds to the following relation, that is, unit 1 indicates 10 ms. 0: No delay 1: 10 ms 10: 100 ms 100: 1s 1000: 10s 6000: 1 min. 12000: 2 min.							

C7 - Multi-point curve

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C7-00	Input of multi-point curve module A	0xC700	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: F-connector							
	Description: Active only when the coordinate where X1≤X2≤...≤X10 is satisfied. When the input is outside the active coordinate point, the output is equal to the ordinate value of adjacent valid coordinate point. When the input is within the valid coordinate point, the corresponding ordinate value is calculated based on the curve. When the number of input coordinates is lower than 10 and the last abscissa inputted is negative, the last negative abscissa and the subsequent abscissa whose value is 0 will be kept, with the reset coordinate values aborted. If the last abscissa inputted is positive, the last positive abscissa will be kept, with the subsequent coordinate values aborted. If the conditions of X1≤X2≤...≤X10 is not satisfied, the drive reports L32.4 (limit-type fault). If the two X coordinates are the same but the Y coordinate is not the same, the drive reports limit-type faults.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C7-01	Setpoint X1 of multi-point curve module A	0xC701	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-02	Setpoint X2 of multi-point curve module A	0xC702	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-03	Setpoint X3 of multi-point curve module A	0xC703	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-04	Setpoint X4 of multi-point curve module A	0xC704	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-05	Setpoint X5 of multi-point curve module A	0xC705	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C7-06	Setpoint X6 of multi-point curve module A	0xC706	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-07	Setpoint X7 of multi-	0xC707	-600.0%~+6	0.0%	Signed 16	Real time	Expert	Effective in

	point curve module A		00.0%		bits	changes	user	real time
C7-08	Setpoint X8 of multi-point curve module A	0xC708	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-09	Setpoint X9 of multi-point curve module A	0xC709	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-10	Setpoint X10 of multi-point curve module A	0xC70A	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C7-11	Setpoint Y1 of multi-point curve module A	0xC70B	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-12	Setpoint Y2 of multi-point curve module A	0xC70C	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-13	Setpoint Y3 of multi-point curve module A	0xC70D	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-14	Setpoint Y4 of multi-point curve module A	0xC70E	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-15	Setpoint Y5 of multi-point curve module A	0xC70F	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C7-16	Setpoint Y6 of multi-point curve module A	0xC710	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-17	Setpoint Y7 of multi-point curve module A	0xC711	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-18	Setpoint Y8 of multi-point curve module A	0xC712	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-19	Setpoint Y9 of multi-point curve module	0xC713	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time

	A							
C7-20	Setpoint Y10 of multi-point curve module A	0xC714	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C7-21	Input of multi-point curve module B	0xC715	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 0: F-connector							
	Description: Active only when the coordinate where X1≤X2≤...≤X10 is satisfied. When the input is outside the active coordinate point, the output is equal to the ordinate value of adjacent valid coordinate point. When the input is within the valid coordinate point, the corresponding ordinate value is calculated based on the curve. When the number of input coordinates is lower than 10 and the last abscissa inputted is negative, the last negative abscissa and the subsequent abscissa whose value is 0 will be kept, with the reset coordinate values aborted. If the last abscissa inputted is positive, the last positive abscissa will be kept, with the subsequent coordinate values aborted. If the conditions of X1≤X2≤...≤X10 is not satisfied, the drive reports L32.4 (limit-type fault). If the two X coordinates are the same but the Y coordinate is not the same, the drive reports limit-type faults.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C7-22	Setpoint X1 of multi-point curve module B	0xC716	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-23	Setpoint X2 of multi-point curve module B	0xC717	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-24	Setpoint X3 of multi-point curve module B	0xC718	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-25	Setpoint X4 of multi-point curve module B	0xC719	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-26	Setpoint X5 of multi-point curve module B	0xC71A	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C7-27	Setpoint X6 of multi-point curve module	0xC71B	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time

	B							
C7-28	Setpoint X7 of multi-point curve module B	0xC71C	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-29	Setpoint X8 of multi-point curve module B	0xC71D	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-30	Setpoint X9 of multi-point curve module B	0xC71E	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-31	Setpoint X10 of multi-point curve module B	0xC71F	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C7-32	Setpoint Y1 of multi-point curve module B	0xC720	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-33	Setpoint Y2 of multi-point curve module B	0xC721	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-34	Setpoint Y3 of multi-point curve module B	0xC722	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-35	Setpoint Y4 of multi-point curve module B	0xC723	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-36	Setpoint Y5 of multi-point curve module B	0xC724	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C7-37	Setpoint Y6 of multi-point curve module B	0xC725	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-38	Setpoint Y7 of multi-point curve module B	0xC726	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-39	Setpoint Y8 of multi-point curve module B	0xC727	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time

C7-40	Setpoint Y9 of multi-point curve module B	0xC728	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
C7-41	Setpoint Y10 of multi-point curve module B	0xC729	-600.0%~+600.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time

C8 Constant Values

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-00	Constant setpoint 1	0xC800	-300.00%~+300.00%	0.00%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 1 to 5 of the constant value setting are float setting of two decimal points, with setting range being -300.00 to +300.00.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-01	Constant setpoint 2	0xC801	-300.00%~+300.00%	100.00%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 1 to 5 of the constant value setting are float setting of two decimal points, with setting range being -300.00 to +300.00.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-02	Constant setpoint 3	0xC802	-300.00%~+300.00%	-100.00%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 1 to 5 of the constant value setting are float setting of two decimal points, with setting range being -300.00 to +300.00.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-03	Constant setpoint 4	0xC803	-300.00%~+300.00%	200.00%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 1 to 5 of the constant value setting are float setting of two decimal points, with setting range being -300.00 to +300.00.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-04	Constant	0xC804	-300.00%~+	-	Signed 16	Real time	Expert user	Effective in

	setpoint 5		300.00%	200.00%	bits	changes		real time
	Description: 1 to 5 of the constant value setting are float setting of two decimal points, with setting range being -300.00 to +300.00.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-05	Constant setpoint 6	0xC805	-3000.0%~+3000.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 6 to 21 of the constant value setting are float setting of one decimal point, with setting range being -3000.0 to 3000.0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-06	Constant setpoint 7	0xC806	-3000.0%~+3000.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 6 to 21 of the constant value setting are float setting of one decimal point, with setting range being -3000.0 to 3000.0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-07	Constant setpoint 8	0xC807	-3000.0%~+3000.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 6 to 21 of the constant value setting are float setting of one decimal point, with setting range being -3000.0 to 3000.0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-08	Constant setpoint 9	0xC808	-3000.0%~+3000.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 6 to 21 of the constant value setting are float setting of one decimal point, with setting range being -3000.0 to 3000.0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-09	Constant setpoint 10	0xC809	-3000.0%~+3000.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 6 to 21 of the constant value setting are float setting of one decimal point, with setting range being -3000.0 to 3000.0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-10	Constant	0xC80A	-	0.0%	Signed 16	Real time	Expert user	Effective in

	setpoint 11		3000.0%~+3000.0%		bits	changes		real time
	Description: 6 to 21 of the constant value setting are float setting of one decimal point, with setting range being -3000.0 to 3000.0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-11	Constant setpoint 12	0xC80B	-3000.0%~+3000.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 6 to 21 of the constant value setting are float setting of one decimal point, with setting range being -3000.0 to 3000.0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-12	Constant setpoint 13	0xC80C	-3000.0%~+3000.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 6 to 21 of the constant value setting are float setting of one decimal point, with setting range being -3000.0 to 3000.0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-13	Constant setpoint 14	0xC80D	-3000.0%~+3000.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 6 to 21 of the constant value setting are float setting of one decimal point, with setting range being -3000.0 to 3000.0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-14	Constant setpoint 15	0xC80E	-3000.0%~+3000.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 6 to 21 of the constant value setting are float setting of one decimal point, with setting range being -3000.0 to 3000.0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-15	Constant setpoint 16	0xC80F	-3000.0%~+3000.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 6 to 21 of the constant value setting are float setting of one decimal point, with setting range being -3000.0 to 3000.0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C8-16	Constant setpoint 17	0xC810	-3000.0%~+3000.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 6 to 21 of the constant value setting are float setting of one decimal point, with setting range being -3000.0 to 3000.0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-17	Constant setpoint 18	0xC811	-3000.0%~+3000.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 6 to 21 of the constant value setting are float setting of one decimal point, with setting range being -3000.0 to 3000.0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-18	Constant setpoint 19	0xC812	-3000.0%~+3000.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 6 to 21 of the constant value setting are float setting of one decimal point, with setting range being -3000.0 to 3000.0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-19	Constant setpoint 20	0xC813	-3000.0%~+3000.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 6 to 21 of the constant value setting are float setting of one decimal point, with setting range being -3000.0 to 3000.0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-20	Constant setpoint 21	0xC814	-3000.0%~+3000.0%	0.0%	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: 6 to 21 of the constant value setting are float setting of one decimal point, with setting range being -3000.0 to 3000.0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-26	Constant setpoint 27	0xC81A	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: 27 to 42 of the constant value setting are integer setting, with setting range being 0 to 65535.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C8-27	Constant setpoint 28	0xC81B	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: 27 to 42 of the constant value setting are integer setting, with setting range being 0 to 65535.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-28	Constant setpoint 29	0xC81C	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: 27 to 42 of the constant value setting are integer setting, with setting range being 0 to 65535.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-29	Constant setpoint 30	0xC81D	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: 27 to 42 of the constant value setting are integer setting, with setting range being 0 to 65535.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-30	Constant setpoint 31	0xC81E	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: 27 to 42 of the constant value setting are integer setting, with setting range being 0 to 65535.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-31	Constant setpoint 32	0xC81F	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: 27 to 42 of the constant value setting are integer setting, with setting range being 0 to 65535.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-32	Constant setpoint 33	0xC820	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: 27 to 42 of the constant value setting are integer setting, with setting range being 0 to 65535.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-33	Constant setpoint 34	0xC821	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: 27 to 42 of the constant value setting are integer setting, with setting range being 0 to 65535.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C8-34	Constant setpoint 35	0xC822	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: 27 to 42 of the constant value setting are integer setting, with setting range being 0 to 65535.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-35	Constant setpoint 36	0xC823	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: 27 to 42 of the constant value setting are integer setting, with setting range being 0 to 65535.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-36	Constant setpoint 37	0xC824	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: 27 to 42 of the constant value setting are integer setting, with setting range being 0 to 65535.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-37	Constant setpoint 38	0xC825	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: 27 to 42 of the constant value setting are integer setting, with setting range being 0 to 65535.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-38	Constant setpoint 39	0xC826	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: 27 to 42 of the constant value setting are integer setting, with setting range being 0 to 65535.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-39	Constant setpoint 40	0xC827	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: 27 to 42 of the constant value setting are integer setting, with setting range being 0 to 65535.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-40	Constant setpoint 41	0xC828	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: 27 to 42 of the constant value setting are integer setting, with setting range being 0 to 65535.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C8-41	Constant setpoint 42	0xC829	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: 27 to 42 of the constant value setting are integer setting, with setting range being 0 to 65535.							

C9 Random Monitoring Parameters & Monitoring Parameters & Commissioning Parameters

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-00	LOWORD of 16-bit data RAM address 1	0xC900	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter defines the low-order 16 bits of the 32-bit address. You can find the corresponding u16 data output by using this address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-01	HIWORD of 16-bit data RAM address 1	0xC901	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter defines the high-order 16 bits of the 32-bit address. You can find the corresponding u16 data output by using this address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-02	LOWORD of 16-bit data RAM address 2	0xC902	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the low 16 bits of 32-bit address. You can locate corresponding u16-type data output through the address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-03	HIWORD of 16-bit data RAM address 2	0xC903	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the high 16 bits of 32-bit address. You can locate corresponding u16-type data output through the address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-04	LOWORD of 16-bit data RAM address 3	0xC904	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: Used as the low 16 bits of 32-bit address. You can locate corresponding u16-type data output through the address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-05	HIWORD of 16-bit data RAM address 3	0xC905	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the high 16 bits of 32-bit address. You can locate corresponding u16-type data output through the address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-06	LOWORD of 16-bit data RAM address 4	0xC906	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the low 16 bits of 32-bit address. You can locate corresponding u16-type data output through the address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-07	HIWORD of 16-bit data RAM address 4	0xC907	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the high 16 bits of 32-bit address. You can locate corresponding u16-type data output through the address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-08	LOWORD of 16-bit data RAM address 5	0xC908	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the low 16 bits of 32-bit address. You can locate corresponding u16-type data output through the address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-09	HIWORD of 16-bit data RAM address 5	0xC909	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the high 16 bits of 32-bit address. You can locate corresponding u16-type data output through the address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-10	32-bit data type selection 1	0xC90A	0~1	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the data type indicated by the 32-bit address. When indicating u32-type, set it to 0. When indicating f32-type, set it to 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C9-11	32-bit data amplification coefficient 1	0xC90B	0~10000	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter defines the data amplification coefficient when the data type is f32. The data is amplified and then output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-12	LOWORD of 32-bit data RAM address 1	0xC90C	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter defines the low-order 16 bits of the 32-bit address. You can find the corresponding u32 data output by using this address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-13	HIWORD of 32-bit data RAM address 1	0xC90D	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter defines the high-order 16 bits of the 32-bit address. You can find the corresponding u32 data output by using this address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-14	32-bit data type selection 2	0xC90E	0~1	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the data type indicated by the 32-bit address. When indicating u32-type, set it to 0. When indicating f32-type, set it to 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-15	32-bit data amplification coefficient 2	0xC90F	0~10000	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When the 32-bit data type is f32, set this bit to the multiplier of the data. The data will be outputted after being multiplied by the multiplier.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-16	LOWORD of 32-bit data RAM address 2	0xC910	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the low 16 bits of 32-bit address. You can locate corresponding u32-type data output through the address.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C9-17	HIWORD of 32-bit data RAM address 2	0xC911	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the high 16 bits of 32-bit address. You can locate corresponding u32-type data output through the address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-18	32-bit data type selection 3	0xC912	0~1	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the data type indicated by the 32-bit address. When indicating u32-type, set it to 0. When indicating f32-type, set it to 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-19	32-bit data amplification coefficient 3	0xC913	0~10000	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When the 32-bit data type is f32, set this bit to the multiplier of the data. The data will be outputted after being multiplied by the multiplier.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-20	LOWORD of 32-bit data RAM address 3	0xC914	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the low 16 bits of 32-bit address. You can locate corresponding u32-type data output through the address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-21	HIWORD of 32-bit data RAM address 3	0xC915	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the high 16 bits of 32-bit address. You can locate corresponding u32-type data output through the address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-22	32-bit data type selection 4	0xC916	0~1	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the data type indicated by the 32-bit address. When indicating u32-type, set it to 0. When indicating f32-type, set it to 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C9-23	32-bit data amplification coefficient 4	0xC917	0~10000	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When the 32-bit data type is f32, set this bit to the multiplier of the data. The data will be outputted after being multiplied by the multiplier.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-24	LOWORD of 32-bit data RAM address 4	0xC918	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the low 16 bits of 32-bit address. You can locate corresponding u32-type data output through the address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-25	HIWORD of 32-bit data RAM address 4	0xC919	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the high 16 bits of 32-bit address. You can locate corresponding u32-type data output through the address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-26	32-bit data type selection 5	0xC91A	0~1	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the data type indicated by the 32-bit address. When indicating u32-type, set it to 0. When indicating f32-type, set it to 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-27	32-bit data amplification coefficient 5	0xC91B	0~10000	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When the 32-bit data type is f32, set this bit to the multiplier of the data. The data will be outputted after being multiplied by the multiplier.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-28	LOWORD of 32-bit data RAM address 5	0xC91C	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the low 16 bits of 32-bit address. You can locate corresponding u32-type data output through the address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

C9-29	HIWORD of 32-bit data RAM address 5	0xC91D	0x0~0xFFFF	0x0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used as the high 16 bits of 32-bit address. You can locate corresponding u32-type data output through the address.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-30	Internal parameter monitoring input 1	0xC91E	0~97	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Write the serial number of the data table related to performance and monitor corresponding variable value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-31	Internal parameter monitoring input 2	0xC91F	0~97	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Write the serial number of the data table related to performance and monitor corresponding variable value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-32	Internal parameter monitoring input 3	0xC920	0~97	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Write the serial number of the data table related to performance and monitor corresponding variable value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-33	Internal parameter monitoring input 4	0xC921	0~97	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Write the serial number of the data table related to performance and monitor corresponding variable value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-34	Internal parameter monitoring input 5	0xC922	0~97	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Write the serial number of the data table related to performance and monitor corresponding variable value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-35	Internal parameter monitoring input 6	0xC923	0~97	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Write the serial number of the data table related to performance and monitor corresponding variable value.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
C9-36	Internal parameter monitoring input 7	0xC924	0~97	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Write the serial number of the data table related to performance and monitor corresponding variable value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-37	Internal parameter monitoring input 8	0xC925	0~97	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Write the serial number of the data table related to performance and monitor corresponding variable value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-40	Variable connector value viewing input 1	0xC928	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Write the serial number of the data table related to connector and monitor corresponding connector value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-41	Variable connector value viewing input 2	0xC929	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Write the serial number of the data table related to connector and monitor corresponding connector value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-42	Variable connector value viewing input 3	0xC92A	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Write the serial number of the data table related to connector and monitor corresponding connector value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-43	Variable connector value viewing input 4	0xC92B	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Write the serial number of the data table related to connector and monitor corresponding connector value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-44	Variable connector value viewing input 5	0xC92C	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Write the serial number of the data table related to connector and monitor corresponding connector value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-45	Variable connector value viewing input 6	0xC92D	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Write the serial number of the data table related to connector and monitor corresponding connector value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-46	Variable connector value viewing input 7	0xC92E	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Write the serial number of the data table related to connector and monitor corresponding connector value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-47	Variable connector value viewing input 8	0xC92F	0~65535	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Write the serial number of the data table related to connector and monitor corresponding connector value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-50	Monitoring variable 0	0xC932	-32768~+32767	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Send the variables to be observed to monitoring variables through the codes							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-51	Monitoring variable 1	0xC933	-32768~+32767	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Send the variables to be observed to monitoring variables through the codes							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-52	Monitoring variable 2	0xC934	-32768~+32767	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Send the variables to be observed to monitoring variables through the codes							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-53	Monitoring variable 3	0xC935	-32768~+32767	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description:							

	Send the variables to be observed to monitoring variables through the codes							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-54	Monitoring variable 4	0xC936	-32768~+32767	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Send the variables to be observed to monitoring variables through the codes							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-55	Monitoring variable 5	0xC937	-32768~+32767	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Send the variables to be observed to monitoring variables through the codes							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-56	Monitoring variable 6	0xC938	-32768~+32767	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Send the variables to be observed to monitoring variables through the codes							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-57	Monitoring variable 7	0xC939	-32768~+32767	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Send the variables to be observed to monitoring variables through the codes							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-58	Monitoring variable 8	0xC93A	-32768~+32767	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Send the variables to be observed to monitoring variables through the codes							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-59	Monitoring variable 9	0xC93B	-32768~+32767	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Send the variables to be observed to monitoring variables through the codes							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-70	Commissioning variable 0	0xC946	-32768~+32767	0	Signed 16 bits	Real time changes	Expert user	Effective in real time

	Description: Send the variables to be commissioned to commissioning variables.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-71	Commissioning variable 1	0xC947	-32768~+32767	0	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: Send the variables to be commissioned to commissioning variables.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-72	Commissioning variable 2	0xC948	-32768~+32767	0	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: Send the variables to be commissioned to commissioning variables.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-73	Commissioning variable 3	0xC949	-32768~+32767	0	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: Send the variables to be commissioned to commissioning variables.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-74	Commissioning variable 4	0xC94A	-32768~+32767	0	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: Send the variables to be commissioned to commissioning variables.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-75	Commissioning variable 5	0xC94B	-32768~+32767	0	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: Send the variables to be commissioned to commissioning variables.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-76	Commissioning variable 6	0xC94C	-32768~+32767	0	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: Send the variables to be commissioned to commissioning variables.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-77	Commissioning	0xC94D	-32768~+32	0	Signed 16	Real time	Expert	Effective in

	variable 7		767		bits	changes	user	real time
	Description: Send the variables to be commissioned to commissioning variables.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-78	Commissioning variable 8	0xC94E	-32768~+32767	0	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: Send the variables to be commissioned to commissioning variables.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
C9-79	Commissioning variable 9	0xC94F	-32768~+32767	0	Signed 16 bits	Real time changes	Expert user	Effective in real time
	Description: Send the variables to be commissioned to commissioning variables.							

CA Nameplate and Auto-tuning Parameters of Motor 4

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-00	Motor type	0xCA00	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Asynchronous motor 1: Variable frequency asynchronous motor 2: Permanent magnet synchronous motor 3: Reluctance motor 4: Electromagnetic coil							
	Description: This parameter is used to set the motor type. 0: Normal asynchronous motor A common asynchronous motor is suitable for applications with normal voltage but often full load. Common asynchronous motors cannot meet all the frequency control requirements. 1: Variable frequency asynchronous motor A variable frequency motor can adjust its frequency and speed according to the load. When the voltage is low, the variable frequency motor can reduce the frequency for a reliable start. When the load is light, it can reduce the frequency, speed, and current to save electric energy. 2: Permanent magnet synchronous motor The permanent magnet synchronous motor provides excitation with a permanent magnet. It features simple structure,							

	small size, high efficiency, and high power factor. 3: Reluctance motor without permanent magnet The reluctance motor is a synchronous motor without permanent magnet, whose torque output is totally from the magnetic reluctance torque generated from q-axis and d-axis inductance difference. 4: Electromagnetic coil The electromagnetic coil is generally an inductive coil used for applications such as electromagnetic suction force and heating.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-01	Rated motor power	0xCA01	0.1kW~1000.0kW	3.7kW	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter indicates the power of the motor during normal operation. The rated power of the motor is the rated voltage x rated current of the motor. Select a motor with a proper power rating on the premise that the motor can meet the requirements of mechanical load. Take the motor heat dissipation, allowable overload capacity, and starting capacity into account.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-02	Rated motor voltage	0xCA02	1V~2000V	380V	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated motor voltage indicates the voltage of the motor during normal operation, which usually refers to the line voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-03	Rated motor current	0xCA03	0.01A~655.35A	9.00A	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated motor current indicates the current of the motor during normal operation, which usually refers to the line current. 0.01 A~655.35 A (power ⩽ 55 kW) 0.1 A~6553.5 A (power ＞ 55 kW)							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CA-04	Rated motor frequency	0xCA04	0.01Hz~F0-10	50.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated motor frequency indicates the frequency of the power supply connected to the stator winding under the rated operation conditions of the motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-05	Rated motor speed	0xCA05	1rpm~65535rpm	1460rpm	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated motor speed indicates the speed (in the unit of rpm) of the rotor under the rated operating conditions.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-06	Number of parallel motors	0xCA06	1~200	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the number of paralleled motors.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-07	Motor information command word	0xCA07	Refer to "Value"	0x3	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
bit0	Inductance curve	0: Disable 1: Enable
bit1	D/Q inductance curve	0: Disable 1: Enable
bit2	Online auto-tuning of rotor resistance	0: Disable 1: Enable
bit3	Online auto-tuning mode of rotor resistance	0: Amplitude 1: Phase

bit4	Motor thermal model	0: Disable 1: Enable
bit5	Motor thermal model temperature source	0: Estimated temperature 1: Temperature detected by the sensor
bit6	Calculation mode of asynchronous motor torque coefficient	0: Torque formula 1: Current distribution
bit7	Calculation mode of synchronous motor torque coefficient	0: Torque formula 1: Matching with rated values
bit8	Calculation mode of zero speed friction torque	0: Decreased to zero linearly 1: Keeping min. speed torque
bit9	Calculating model parameter based on nameplate parameters	0: Disable 1: Enable
bit10	Acknowledgment key for calculating model parameter based on nameplate parameters	0: Default 1: Acknowledgment key
bit12	Reluctance motor Lq curve	0: Dynamic auto-tuning results 1: Static auto-tuning results
bit13	Synchronous motor torque precision correction	0: Disable 1: Enable

Description:

The motor information command word can be enabled based on different bit bits. By default, it is not changed.

bit0: Inductance curve

bit1: D/Q inductance curve

bit2: Online auto-tuning of rotor resistance

bit3: Online auto-tuning mode of rotor resistance

bit4: Motor thermal model

bit5: Motor thermal model temperature source

bit6: Calculation mode of asynchronous motor torque coefficient

bit7: Calculation mode of synchronous motor torque coefficient

bit8: Calculation mode of zero speed friction torque

bit9: Calculating model parameter based on nameplate parameters

bit10: Acknowledgment key for calculating model parameter based on nameplate parameters

bit12: Reluctance motor Ld curve

bit13: Synchronous motor torque precision correction (used in cases requiring high torque precision to improve torque precision during steady-state operation)

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-08	Number of resolver pole pairs	0xCA08	0~64	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

CA-09	Motor power factor	0xCA09	0.600~1.000	0.860	Unsigned 16 bit	Shutdown change	General user	Effective in real time
CA-10	Encoder PPR	0xCA0A	1~65535	1024	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Sets the number of ABZ encoder PPR (total AB pulses per revolution/4), or sine-cosine encoder string waves per revolution. In the FVC mode, the encoder PPR mus be set properly. Otherwise, the motor cannot run normally.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-11	Encoder type	0xCA0B	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: ABZ incremental encoder 1: 23-bit encoder 2: Resolver 3: External input 4: Sin-Cos encoder							
	Description: After installing the PG card, set BA-11 properly to ensure normal operation of the drive. 0: ABZ incremental encoder 1: 23-bit encoder 2: Resolver 3: External input 4: Sin-cos encoder							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-12	Speed feedback PG card	0xCA0C	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Main PG card 1: Auxiliary PG card							
	Description: Used to select the speed measuring angle source. When a main PG card is used for speed measurement, select 0. When an auxiliary PG card is used for speed measurement, select 1.							

	It is recommended to set use the main PG card as the speed feedback source for motor control. The auxiliary PG card can be used to obtain the processing control position/speed. 0: Main PG card 1: Auxiliary PG card

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-13	Number of resolver pole pairs	0xCA0D	1~65535	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: A resolver is an electromagnetic transducer, also known as a synchronous resolver. It is a small AC motor used to measure angles, and measure shaft angular displacement and angular velocity of a rotating object. It consists of stators and rotors. This parameter indicates the number of pole pairs of the resolver. The higher the number of pole pairs, the higher the precision. If a resolver is applied, set the number of pole pairs of the resolver properly.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-15	Speed feedback PG wire breakage detection time	0xCA0F	0.0s~10.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the open circuit detection time. If it is set to 0.0s, detection is disabled. The drive reports E020.X when an open circuit fault is detected and the fault persists after the time defined by CA-15 elapses.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-16	A/B phase sequence of encoder	0xCA10	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Forward 1: Reverse							
	Description: Change encoder speed measurement phase sequence							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CA-17	Encoder installation angle	0xCA11	0.0°~359.9°	0.0°	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The angle between motor zero and encoder zero used by the synchronous motor can be auto-tuned.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-18	Expansion card	0xCA12	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 1: Expansion card 1 2: Expansion card 2							
	Description: Used to select the expansion card. 1: Expansion card 1 2: Expansion card 2							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-19	ABZ encoder speed measurement mode at low speed	0xCA13	Refer to "Value"	2	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Maintain 1: Attenuate 2: Optimized solution							
	Description: In case of low speed without pulse, three speed measurement solutions are available. 0: Kept unchanged Keep the current speed when there is no pulse, and the speed is determined to be zero after 4 ms elapsed. 1: Attenuate When there is no pulse, the speed is attenuated based on 1/2 exponential and the speed is determined to be zero after 4 ms elapsed. 2: Optimized The speed is kept the same firstly, and then attenuated after a certain number of cycles. After the number of pulse-less cycles reaches zero, the speed is determined to be zero.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-20	Encoder speed measurement filter time constant	0xCA14	0.000s~10.000s	0.004s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: By adjusting the encoder speed measurement filter time constant, the filtering effect on the encoder signal can be changed. The higher the filter time, the smoother the encoder feedback speed, but the greater the feedback speed delay; the lower the filter time, the greater the encoder feedback speed fluctuation, but the smaller the feedback speed delay; under the FVC control mode, the filter time constant cannot be too low when the resolver and other encoder signal quality is not good.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-21	Encoder wire breakage software detection coefficient	0xCA15	0.000~8.000	1.000	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter sets the size of the speed burrs when the speed is abnormal. The default is 100%. Generally, no change is required.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-22	Encoder control word	0xCA16	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
bit0	Speed measurement	0: Disable 1: Enable
bit1	Software disconnection detection	0: Disable 1: Enable
bit2	Burr removal	0: Disable 1: Enable
bit3	ABZ speed measurement mode	0: Quadruple frequency 1: Single pulse
bit4	AB pulse setting mode	0: AB quadrature 1: A-pulse B-direction
bit5	A-pulse B-direction function selection 1	0: Falling edge counting of A 1: Rising edge counting of A

bit6	A-pulse B-direction function selection 2	0: B-direction being forward upon high level/reverse upon low level 1: B-direction being reverse upon high level/forward upon low level

Description:

Bit0: Speed measurement

In FVC mode, speed measurement is enabled automatically. When other control modes apply where the speed needs to be measured, enable the speed measurement to turn on or off the encoder speed measurement.

Bit1: Software disconnection detection

The software disconnection detection is used to detect the encoder function during operation based on the encoder speed measurement results. The detection is not available in the shutdown state. Enabling the software disconnection detection will automatically enables the burr removal function. When the number of speed measurement errors is detected to be greater than CA-23, the encoder software disconnection fault will be reported.

Bit2: Burr removal

This function is used to remove the speed measurement burrs that occur occasionally. The magnitude of the burrs removed is restricted by CA-21.

Bit3: ABZ speed measurement mode

0: Quadruple frequency speed measurement mode is used throughout the process.

1: Quadruple frequency speed measurement mode is used during low-speed operation. Single pulse speed measurement mode is used during high-speed operation.

2: Single frequency speed measurement is used throughout the process.

Bit4: AB pulse setting mode selection

0: AB quadrature, quadrature speed measurement performed based on the rising/falling edge of AB pulse

1: A-pulse B-direction, counting is performed by taking A signal as counting pulse and B signal as direction indication

Bit5: A-pulse B-direction function selection 1

0: Counting performed in the falling edge of A

1: Counting performed in the rising edge of A

Bit6: A-pulse B-direction function selection 2

0: When A-pulse edge comes, UP counting applies upon high level of B/DOWN counting applies upon low level of B.

1: When A-pulse edge comes, DOWN counting applies upon high level of B/UP counting applies upon low level of B.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-23	Speed measurement exception count threshold	0xCA17	1~100	10	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Description:

When encoder software disconnect detection is enabled, an encoder software disconnection fault is reported when the number of speed measurement errors detected is greater than CA-23.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CA-24	Motor gear ratio (numerator)	0xCA18	1~65535	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the encoder and motor are not coaxially mounted, the control motor needs to set the gear ratio, which forms the gear ratio together with CA-25. If the motor-to-load deceleration ratio is 2.5 (2.5 revolutions of motor = 1 revolution of load), and the encoder is installed on the load, the numerator should be set to 5 and the denominator should be set to 2.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-25	Motor gear ratio (denominator)	0xCA19	1~65535	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the encoder and motor are not coaxially mounted, the control motor needs to set the gear ratio, which forms the gear ratio together with CA-24. If the motor-to-load deceleration ratio is 2.5 (2.5 revolutions of motor = 1 revolution of load), and the encoder is installed on the load, the numerator should be set to 5 and the denominator should be set to 2.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-26	External input source of encoder	0xCA1A	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: 0 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: When the speed comes from a communication reference or an AI terminal reference, the encoder type BA-11 is selected as an external source, and the parameter is set to a corresponding source. 0: 0 No external input source 1: AI1 The real-time target speed is input with the current or voltage signal through AI1 terminal based on the preset AI curve. 2: AI2 The real-time target speed is input with the current or voltage signal through AI2 terminal based on the preset AI curve. 3: AI3 The real-time target speed is input with the current or voltage signal through AI3 terminal based on the preset AI curve. 4: Pulse setting							

	The real-time target speed is set through DI5. 5: Communication setting The real-time target speed is set through communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode applies to remote control or centralized control of multiple devices. 6: Multi-reference In the multi-reference mode, different combinations of DI states correspond to different frequency references. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC. 7: Motorized potentiometer The real-time target speed is set by the motorized potentiometer module output. 8: PID The real-time target speed is set through PID output. Others: F connector The real-time target speed is set through the connector.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-27	Sin-Cos encoder frequency-division output coefficient	0xCA1B	4~65532	4	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Indicates the number of pulses outputted by the PG card. Indicates the number of pulses outputted by the PG card per revolution of the sin-cos encoder signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-28	Rated speed of high-speed motor	0xCA1C	0rpm~65535rpm	0rpm	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The setpoint applies when the rated speed of the high-speed motor is higher than 60000 rpm (setpoint ⩾ 6000). Otherwise the setpoint of F1-05 applies. The unit is in 10 rpm.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-29	Motor parameter auto-tuning mode	0xCA1D	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: No operation 4: Inertia auto-tuning 11: With-load auto-tuning of the							

	1：Static partial auto-tuning of the asynchronous motor 2：Dynamic auto-tuning of the asynchronous motor 3：Static complete auto-tuning of the asynchronous motor	5：Dead zone auto-tuning 9：Reserved 10：Reserved	synchronous motor (back EMF excluded) 12：No-load dynamic auto-tuning of the synchronous motor 13：With-load rotary auto-tuning of the synchronous motor (zero point angle excluded) 14：UV gain phase-to-phase deviation auto-tuning

Description：

For high-performance motor operation, accurate motor parameters are required. Select different motor auto-tuning modes based on the motor type to obtain motor parameters.

0: No operation

Auto-tuning is not performed.

1: Static partial auto-tuning of asynchronous motor

Applied to applications where motors cannot be disconnected from the load and dynamic auto-tuning is not allowed. In this mode, some motor parameters are auto-tuned, including BA-30 (Asynchronous motor stator resistance), BA-31 (Asynchronous motor rotor resistance), and BA-32 (Asynchronous motor leakage inductance). Others parameters use the default values.

2: Dynamic auto-tuning of the asynchronous motor

This mode is applicable to scenarios requiring high-speed operation. Dynamic auto-tuning can be performed without load or with pure inertia load. Auto-tuning is performed on all the motor parameters, including BA-30 (Asynchronous motor stator resistance), BA-31 (Asynchronous motor rotor resistance), BA-32 (Asynchronous motor leakage inductance), BA-33 (Asynchronous motor mutual inductance), BA-34 (Asynchronous motor no-load current), BA-16 (Encoder phase sequence), motor inertia ratio (BA-42), and friction torque (BA-43).

3: Static complete auto-tuning of the asynchronous motor

This mode is applicable to scenarios where the motor cannot be disconnected from loads and dynamic complete auto-tuning is not feasible. Auto-tuning is performed on some motor parameters, including BA-30 (Asynchronous motor stator resistance), BA-31 (Asynchronous motor rotor resistance), BA-32 (Asynchronous motor leakage inductance), BA-33 (Asynchronous motor mutual inductance), and BA-34 (Asynchronous motor no-load current). However, BA-33 and BA-34 have higher precision in the dynamic auto-tuning mode than in this mode.

4: Inertia auto-tuning

This mode is applicable to scenarios requiring high-speed operation. Auto-tuning can be performed without load or with light load (below 80% of the rated load) or pure inertia load. After auto-tuning is done, BA-42 (Inertia ratio), BA-43 (Friction torque), and BA-41 (Motor time constant) are updated.

5: Dead zone auto-tuning

This mode is used to tune the non-linear characteristics of the drive, thus improving the voltage output precision and operation efficiency. The auto-tuned value is saved in BF-22, and BF-23 to BF-38.

11: With-load auto-tuning of synchronous motor (back EMF excluded)

This mode applies to applications where the motor cannot be disconnected from the load. The motor may rotate for several revolutions slowly during auto-tuning. Auto-tuned motor parameters include BA-30 (Motor stator resistance), BA-36 (D-axis inductance of synchronous motor), BA-37 (Q-axis inductance of synchronous motor), and BA-17 (Encoder mounting

	angle) in the FVC mode. BA-16 (Encoder direction) in the FVC mode is not tuned. Note: Before setting the drive to the FVC mode, change the drive to the SVC mode and check that the encoder direction is correct. Then switch the drive to the FVC mode. 12: No-load dynamic complete auto-tuning of synchronous motor This mode applies to applications where the motor can be disconnected from the load. Auto-tuned motor parameters in the FVC mode include BA-30 (Motor stator resistance), BA-36 (D-axis inductance of synchronous motor), BA-37 (Q-axis inductance of synchronous motor), BA-39 (Synchronous motor back EMF), BA-16 (Encoder phase sequence), and BA-17 (Encoder mounting angle). BA-16 and BA-17 are not tuned in other control modes. 13: With-load rotary auto-tuning of synchronous motor (zero angle excluded) This mode applies to applications where the motor cannot be disconnected from the load and dynamic complete auto-tuning is not allowed. The motor does not rotate during auto-tuning. Auto-tuning is performed on the motor parameters including BA-30 (Motor stator resistance), BA-36 (Synchronous motor d-axis inductance), and BA-37 (Synchronous motor q-axis inductance). Encoder parameters are not tuned. Note: Before setting the drive to the FVC mode, change the drive to the SVC mode and check that the encoder direction is correct. Then switch the drive to the FVC mode. 14: UV gain phase-to-phase deviation auto-tuning The current sampling gain deviation between output phases is tuned. The tuned result is updated in FF-05 (Current sampling gain error between U-phase current and V-phase current) and FF-06 (Current sampling gain error between U-phase current and W-phase current).

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-31	Asynchronous motor rotor resistance	0xCA1F	0.001Ω~65.535Ω	0.908Ω	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The motor rotor resistance is the DC resistance of the motor rotor winding, which can be obtained through motor static or dynamic auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-32	Asynchronous motor leakage inductance	0xCA20	0.01mH~655.35mH	5.28mH	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The leakage inductance of the asynchronous motor is caused by the leakage flux of motor winding. Flux is generated upon current injection into the motor winding, which can be divided into main flux and leakage flux. The leakage flux is the leakage inductance. This parameter can be obtained through motor auto-tuning or dynamic motor auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-33	Asynchronous motor	0xCA21	0.1mH~6553.5mH	156.8mH	Unsigned	Real time	General	Effective

	mutual inductance				16 bit	changes	user	in real time
	Description: When the current in one coil of the motor changes, induced EMF is generated in the coil adjacent to it. This mutually induced EMF can be expressed by mutual inductance. The mutual inductance of a motor can be roughly divided into two types. One is the inter-phase inductance of the stator or rotor, which is the reactance between two phases of the stator or rotor. The other is the inductance between the stator and the rotor. The inductance of the first type does not change with the rotation of the rotor, whereas the inductance of the second type changes accordingly with the rotation of the rotor. Both types are motor mutual inductance, which can be obtained through dynamic motor auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-34	Asynchronous motor no-load current	0xCA22	0.01A~CA-03	4.20A	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the current that passes through the three-phase winding of the stator during no-load operation of the asynchronous motor. The parameter can be obtained by dynamic motor auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-35	Synchronous motor stator resistance	0xCA23	0.001Ω~65.535Ω	1.204Ω	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the DC resistance of stator winding of the synchronous motor. This parameter can be obtained through motor auto-tuning.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-36	Synchronous motor D axis inductance	0xCA24	0.01mH~655.35mH	5.28mH	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the inductance of main pole axis (longitudinal axis) of synchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-37	Synchronous motor	0xCA25	0.01mH~655.35mH	5.28mH	Unsigned	Real time	General	Effective

	Q axis inductance				16 bit	changes	user	in real time
	Description: Indicates the inductance of the center line (quadrature axis) between the adjacent magnetic pole axes of synchronous motor rotor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-39	Synchronous motor back EMF coefficient	0xCA27	0.0V~6553.5V	350.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the RMS value of the motor back EMF at the rated frequency (CA-04).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-40	Stator leakage inductance	0xCA28	0.000mH~65.535mH	6.540mH	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Leakage inductance of asynchronous motor stator							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-41	Electromechanical time constant	0xCA29	0.01s~655.35s	1.00s	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Defines the time for the motor to accelerate to the rated speed at no-load operation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-42	Inertia ratio	0xCA2A	0.0%~6553.5%	120.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the ratio of the actual motor inertia to the default system inertia, which can be auto-tuned by dynamic or inertia auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-43	Friction torque	0xCA2B	0.0%~6553.5%	2.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the motor friction torque, which can be auto-tuned.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-44	Excitation current point 1 of mutual inductance curve	0xCA2C	5.0%~100.0%	50.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the excitation current point 1 of mutual inductance curve of asynchronous motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-45	Excitation current point 2 of mutual inductance curve	0xCA2D	5.0%~100.0%	75.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the excitation current point 2 of mutual inductance curve of asynchronous motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-46	Excitation current coefficient 3 of mutual inductance curve	0xCA2E	100.0%~800.0%	150.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the excitation current point 3 of mutual inductance curve of asynchronous motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-47	Excitation current coefficient 4 of mutual inductance curve	0xCA2F	100.0%~800.0%	210.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time

	Description: Defines the excitation current point 4 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-48	Flux coefficient 1 of mutual inductance curve (rated)	0xCA30	10.0%~100.0%	50.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the flux point 1 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-49	Flux coefficient 2 of mutual inductance curve (rated)	0xCA31	10.0%~100.0%	85.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the flux point 2 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-50	Flux coefficient 3 of mutual inductance curve	0xCA32	100.0%~300.0%	115.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the flux point 3 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-51	Flux coefficient 4 of mutual inductance curve	0xCA33	100.0%~300.0%	125.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the flux point 4 of mutual inductance curve of asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-52	Speed point 1 of friction curve	0xCA34	0rpm~30000rpm	15rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real

								time
	Description: Defines the corresponding speed point 1 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-53	Speed point 2 of friction curve	0xCA35	0rpm~30000rpm	30rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 2 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-54	Speed point 3 of friction curve	0xCA36	0rpm~30000rpm	60rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 3 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-55	Speed point 4 of friction curve	0xCA37	0rpm~30000rpm	120rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 4 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-56	Speed point 5 of friction curve	0xCA38	0rpm~30000rpm	150rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 5 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-57	Speed point 6 of	0xCA39	0rpm~30000rpm	300rpm	Unsigned	Shutdown	Expert	Effective

	friction curve				16 bit	change	user	in real time
	Description: Defines the corresponding speed point 6 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-58	Speed point 7 of friction curve	0xCA3A	0rpm~30000rpm	600rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 7 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-59	Speed point 8 of friction curve	0xCA3B	0rpm~30000rpm	1200rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 8 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-60	Speed point 9 of friction curve	0xCA3C	0rpm~30000rpm	1500rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 9 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-61	Speed point 10 of friction curve	0xCA3D	0rpm~30000rpm	3000rpm	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding speed point 10 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CA-62	Torque point 1 of friction curve	0xCA3E	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 1 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-63	Torque point 2 of friction curve	0xCA3F	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 2 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-64	Torque point 3 of friction curve	0xCA40	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 3 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-65	Torque point 4 of friction curve	0xCA41	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 4 of speed-friction torque curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-66	Torque point 5 of friction curve	0xCA42	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 5 of speed-friction torque curve.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
CA-67	Torque point 6 of friction curve	0xCA43	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 6 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-68	Torque point 7 of friction curve	0xCA44	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 7 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-69	Torque point 8 of friction curve	0xCA45	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 8 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-70	Torque point 9 of friction curve	0xCA46	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 9 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-71	Torque point 10 of friction curve	0xCA47	-320.00N·m ~+320.00N·m	0.00N·m	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the corresponding torque point 10 of speed-friction torque curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-72	Current coefficient starting point of D- and Q-axis inductance curve	0xCA48	-800.0%~+800.0%	-200.0%	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the starting point of D/Q-axis inductance curve current coefficient.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-73	Current coefficient end point of D- and Q-axis inductance curve	0xCA49	-800.0%~+800.0%	200.0%	Signed 16 bits	Shutdown change	Expert user	Effective in real time
	Description: Defines the end point of D/Q-axis inductance curve current coefficient.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-74	D axis inductance 1 of D- and Q-axis inductance curve	0xCA4A	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: D-axis inductance curve point 1							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-75	D axis inductance 2 of D- and Q-axis inductance curve	0xCA4B	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: D-axis inductance curve point 2							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-76	D axis inductance 3 of D- and Q-axis inductance curve	0xCA4C	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time

	Description: D-axis inductance curve point 3							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-77	D axis inductance 4 of D- and Q-axis inductance curve	0xCA4D	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: D-axis inductance curve point 4							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-78	D axis inductance 5 of D- and Q-axis inductance curve	0xCA4E	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: D-axis inductance curve point 5							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-79	D axis inductance 6 of D- and Q-axis inductance curve	0xCA4F	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: D-axis inductance curve point 6							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-80	D axis inductance 7 of D- and Q-axis inductance curve	0xCA50	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: D-axis inductance curve point 7							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-81	D axis inductance 8 of D- and Q-axis	0xCA51	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real

	inductance curve							time
	Description: D-axis inductance curve point 8							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-82	D axis inductance 9 of D- and Q-axis inductance curve	0xCA52	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: D-axis inductance curve point 9							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-83	D axis inductance 10 of D- and Q-axis inductance curve	0xCA53	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: D-axis inductance curve point 10							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-84	D axis inductance 11 of D- and Q-axis inductance curve	0xCA54	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: D-axis inductance curve point 11							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-85	D axis inductance 12 of D- and Q-axis inductance curve	0xCA55	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: D-axis inductance curve point 12							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-86	Q axis inductance 1	0xCA56	0.0%~6553.5%	100.0%	Unsigned	Shutdown	Expert	Effective

	of D- and Q-axis inductance curve				16 bit	change	user	in real time
	Description: Q-axis inductance curve point 1							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-87	Q axis inductance 2 of D- and Q-axis inductance curve	0xCA57	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Q-axis inductance curve point 2							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-88	Q axis inductance 3 of D- and Q-axis inductance curve	0xCA58	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Q-axis inductance curve point 3							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-89	Q axis inductance 4 of D- and Q-axis inductance curve	0xCA59	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Q-axis inductance curve point 4							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-90	Q axis inductance 5 of D- and Q-axis inductance curve	0xCA5A	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Q-axis inductance curve point 5							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CA-91	Q axis inductance 6 of D- and Q-axis inductance curve	0xCA5B	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Q-axis inductance curve point 6							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-92	Q axis inductance 7 of D- and Q-axis inductance curve	0xCA5C	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Q-axis inductance curve point 7							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-93	Q axis inductance 8 of D- and Q-axis inductance curve	0xCA5D	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Q-axis inductance curve point 8							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-94	Q axis inductance 9 of D- and Q-axis inductance curve	0xCA5E	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Q-axis inductance curve point 9							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-95	Q axis inductance 10 of D- and Q-axis inductance curve	0xCA5F	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Q-axis inductance curve point 10							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
CA-96	Q axis inductance 11 of D- and Q-axis inductance curve	0xCA60	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Q-axis inductance curve point 11							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CA-97	Q axis inductance 12 of D- and Q-axis inductance curve	0xCA61	0.0%~6553.5%	100.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Q-axis inductance curve point 12							

CB Motor V/f Control Parameters & Vector Parameters (1) of Motor 4

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-00	V/f curve setting	0xCB00	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

0: Linear V/f
1: Multi-point V/f
2: Reserved
3: Reserved
4: Reserved
5: Reserved
6: Reserved
7: Reserved
8: Reserved
9: Reserved
10: V/f fully separated mode
11: V/f partially separated mode

Description:

Used to set the V/f curve. In V/f mode, different V/f curves can be set according to different application conditions.

0: Linear V/f

The output voltage and output frequency change linearly when below the rated frequency. It is applicable to general mechanical drive applications such as large inertia fan acceleration, punch presses, centrifuges and water pumps.

1: Multi-point V/f curve

The range of the frequency point is 0.00 Hz to the rated motor frequency. The range of the voltage point is 0.0% to 100.0%, which corresponds to 0 V to the rated motor voltage. Set the multi-point V/f curve based on motor's load characteristic.

Observe this formula during settings: F3-03 ≤ F3-05 ≤ F3-07

10: V/f fully separated mode

	The output frequency and output voltage of the AC drive are independent. The output frequency is determined by the frequency source, and the output voltage is determined by the voltage source for V/f separation. This curve applies to torque motor control applications. 11: V/f partially separated mode In this mode, V and f are proportional. The relationship between V and f is also related to the rated motor voltage and rated motor frequency in group motor 1. The relationship between the output voltage of the drive (V) and frequency (f) is as follows: V/f = 2 x (Voltage source input) x (Rated motor voltage)/(Rated motor frequency). Note: The input value of the voltage source is 0 to 100%.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-01	Torque boost	0xCB01	0.0%~30.0%	3.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The torque boost function is generally applicable to low-frequency operations of the drive. The output torque of the AC drive in the V/f control mode is proportional to the frequency. During operation at low frequencies, the motor torque is low when the motor runs at a low speed. In this case, you can set this parameter to increase the output voltage of the drive to improve the output torque. Note that the torque boost value must be set properly. Otherwise, overload protection will be triggered.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-02	Cut-off frequency of torque boost	0xCB02	0.00Hz~F0-10	50.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the running frequency reaches the cutoff frequency of torque boost, the torque boost function is disabled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-03	Multi-point V/f frequency 1	0xCB03	0.00Hz~CB-05	0.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the frequency point 1 of multi-point V/f curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-04	Multi-point V/f voltage 1	0xCB04	0.0%~100.0%	0.0%	Unsigned	Shutdown	General	Effective

					16 bit	change	user	in real time
	Description: Defines the voltage point 1 of multi-point V/f curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-05	Multi-point V/f frequency 2	0xCB05	CB-03~CB-07	0.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the frequency point 2 of multi-point V/f curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-06	Multi-point V/f voltage 2	0xCB06	0.0%~100.0%	0.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the voltage point 2 of multi-point V/f curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-07	Multi-point V/f frequency 3	0xCB07	CB-05~CA-04	0.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the frequency point 3 of multi-point V/f curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-08	Multi-point V/f voltage 3	0xCB08	0.0%~100.0%	0.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the voltage point 3 of multi-point V/f curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CB-09	V/f slip compensation gain	0xCB09	0.0~6553.5	0.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: In V/f mode, increasing the output frequency compensates for the motor speed deceleration. A higher gain indicates a higher compensation frequency. However, an excessively high gain can incur overcompensation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-10	V/f over-excitation gain	0xCB0A	0~200	64	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: A larger over-excitation gain indicates better suppression effect. When a braking resistor, braking unit, or energy feedback unit is used, set this parameter to 0. Otherwise, overcurrent may occur during operation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-11	V/f oscillation suppression gain	0xCB0B	0~100	40	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The higher the vibration gain, the better the suppression performance.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-12	V/f oscillation suppression	0xCB0C	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: In V/f mode, for most motors, speed and current oscillation will occur at low frequency, which may lead to overcurrent of the AC drive. Oscillation can be eliminated by enabling oscillation suppression.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-13	Voltage source for	0xCB0D	Refer to "Value"	0	Unsigned	Real time	General	Effective

	separated V/f				16 bit	changes	user	in real time

Value：

0： Digital setting (CB-14)
1： AI1
2： AI2
3： AI3
4： Pulse reference (DI5)
5： Multi-reference
6： Simple PLC
7： PID
8： Communication
Others： F connector

Description：

Defines the target voltage reference source in case of separated V/f.

0: Digital setting (CB-14)

The V/f separation voltage is set by CB-14.

1: AI1

The V/f separation voltage is inputted by current or voltage signal through the AI1. The frequency is calculated according to the AI curve.

2: AI2

The V/f separation voltage is inputted by current or voltage signal through the AI2. The frequency is calculated according to the AI curve.

3: AI3

The V/f separation voltage is inputted by current or voltage signal through the AI3. The frequency is calculated according to the AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card.

4: The Pulse reference (DI5)

The V/f separation voltage is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and running frequency.

5: Multi-reference

In multi-reference mode, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC.

6: Simple PLC

The V/f separation voltage is set by simple PLC. For details, see the function description of simple PLC.

7: PID

The V/f separation voltage is set through PID. For details, see descriptions of the PID function.

8: Communication

The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment.

Others: F connector

Read the connector value through setting the parameter No. of a float connector. The value being read is used as the motoring torque upper limit reference in speed control. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CB-14	Voltage digital setting for V/f separation	0xCB0E	0V~CA-02	0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
CB-15	Voltage rise time of V/f separation	0xCB0F	0.0s~1000.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the time required for the output voltage to accelerate from 0 to the setpoint of separated V/f voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-16	Voltage decline time of V/f separation	0xCB10	0.0s~1000.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Indicates the time required for the output voltage to decline from the setpoint of separated V/f voltage to 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-17	Stop mode for separated V/f	0xCB11	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Frequency and voltage decline to 0 independently 1: Frequency declines to 0 after voltage declines to 0 2: Coast to stop (new)							
	Description: Used to select the respective stop mode of frequency/voltage. 0: The frequency/voltage declines to 0 independently based on respective deceleration time. 1: The voltage declines to 0 based on the deceleration time. Then the frequency declines to 0 based on the deceleration time. 2: The voltage/frequency coasts to stop, regardless of the deceleration curve.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-18	Action current of overcurrent stall suppression	0xCB12	50%~200%	150%	Unsigned 16 bit	Shutdown change	General user	Effective in real time

	Description: When the motor current reaches the value of this parameter, the AC drive starts the overcurrent stall function. The default value is 150%, corresponding to 1.5 x the rated current of the drive.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-19	Overcurrent stall suppression	0xCB13	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Determines whether the V/f overcurrent stall function is enabled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-20	Overcurrent stall suppression gain	0xCB14	1~500	20	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the current exceeds the overcurrent stall action current, the overcurrent stall suppression function is triggered, and the output frequency decreases. When the current falls below the overcurrent stall threshold, the output frequency increases to the target frequency, and the actual acceleration time prolongs automatically. A larger parameter value indicates better suppression effect.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-21	Action current compensation coefficient for overcurrent stall at multiplied rated frequency	0xCB15	50%~200%	100%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter reduces the overcurrent stall action current at high speed. It is invalid when set to 50%. The recommended value for BB-18 in the flux weakening area is 100%.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CB-22	V/f overvoltage stall suppression voltage	0xCB16	330.0V~800.0V	770.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the bus voltage reaches this value, the AC drive starts the voltage limit function.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-23	V/f overvoltage stall suppression	0xCB17	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Used to enable/disable the V/f overvoltage stall suppression. 0: Disabled 1: Enabled (overvoltage stall gain activated by default) The function of F3-23 is the same as F9-04 (Overvoltage stall protection voltage). When a braking resistor, braking unit, or energy feedback unit is used, set this parameter to 0. Otherwise, the deceleration time may be prolonged.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-24	V/f frequency gain for voltage limit	0xCB18	1~500	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing CB-24 improves the control effect of bus voltage, but the output frequency will fluctuate. If the output frequency fluctuates greatly, reduce CB-24 appropriately. The function of CB-24 is the same as F9-03 (Overvoltage stall gain).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-25	V/f voltage gain for voltage limit	0xCB19	1~500	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter suppresses the bus voltage. Increasing the parameter value can reduce the overshoot of the bus voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-26	Frequency rise limit for V/f overvoltage stall suppression	0xCB1A	0Hz~50Hz	5Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The running frequency may increase when the voltage limit function is enabled. This parameter limits the increase of the running frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-27	Slip compensation filter time	0xCB1B	0.1s~10.0s	0.5s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Time constant of slip compensation frequency The larger the time constant is, the more stable the frequency of the slip compensation is, and the less the frequency is affected by load disturbance and noise. However, the response to load changes will be slower.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-28	Multi-point curve source	0xCB1C	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: 3-point curve 1: Multi-point curve module A 2: Multi-point curve module B							
	Description: Used to select the multi-point curve. 0: 3-point curve The 3-point curve applies by default, which is set by F3-03...F3-08. 1: Multi-point curve module A The free module A output is used as multi-point curve setting. 2: Multi-point curve module B The free module B output is used as multi-point curve setting.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CB-33	Online torque compensation gain	0xCB21	80~150	100	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: In V/f mode, CB-01 increases the output voltage of the AC drive according to a fixed curve. When CB-33 ⩾ 100 or CB-01 = 0, an additional boost related to the load magnitude can be superimposed to the output voltage that has already been boosted based on CB-01, which is automatic torque boost compensation. The higher the gain of CB-33, the higher the torque boost compensation. When CB-33 < 100 and CB-01 ≠ 0, the automatic torque boost compensation is disabled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-34	IMaxKI coefficient	0xCB22	10%~1000%	100%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the current filter time upon slip compensation without PG of asynchronous motor in V/f mode The shorter the filter time, the faster the response speed of slip compensation. However, an excessively short filter time may lead to oscillation. The longer the filter time, the slower the slip compensation speed, and the more stable the adjustment process will be.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-35	Overcurrent stall suppression threshold (rated current of motor)	0xCB23	80%~300%	200%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When the asynchronous motor operates in V/f mode, the slip exists between the rotor speed and synchronous frequency, which can cause low motor speed precision. In this case, the heavier the load, the lower the speed precision. The slip compensation can be used to compensate for the speed change to improve the speed precision. The slip compensation with PG is applicable to applications with motor encoder. The output frequency is compensated based on the speed feedback from the encoder, which features high precision. In absence of an encoder, use slip compensation without PG to perform compensation based on the load current, which features lower precision compared with the slip compensation with PG.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-36	Frequency for activating field weakening upon overcurrent stall suppression	0xCB24	100%~500%	100%	Unsigned 16 bit	Shutdown change	General user	Effective in real time

	Description: When the motor operates at a frequency higher than this setpoint, the target current of overcurrent suppression drops in reverse proportion. The current oscillate when entering the field weakening area. In this case, lower this frequency threshold properly.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-37	IT filter time	0xCB25	10ms~1000ms	100ms	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the current filter time upon slip compensation without PG of asynchronous motor in V/f mode The shorter the filter time, the faster the response speed of slip compensation. However, an excessively short filter time may lead to oscillation. The longer the filter time, the slower the slip compensation speed, and the more stable the adjustment process will be.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-38	Slip compensation mode	0xCB26	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Slip compensation without PG 2: Slip compensation with PG							
	Description: When the asynchronous motor operates in V/f mode, the slip exists between the rotor speed and synchronous frequency, which can cause low motor speed precision. In this case, the heavier the load, the lower the speed precision. The slip compensation can be used to compensate for the speed change to improve the speed precision. The slip compensation with PG is applicable to applications with motor encoder. The output frequency is compensated based on the speed feedback from the encoder, which features high precision. In absence of an encoder, use slip compensation without PG to perform compensation based on the load current, which features lower precision compared with the slip compensation with PG.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-39	VdcMaxCtrl allowed runtime	0xCB27	0.0s~100.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Permissible overvoltage suppression time							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-40	Upper limit of V/f separation voltage	0xCB28	50.0%~200.0%	100.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the upper limit of V/f separation voltage, which takes the rated motor voltage as the basis.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-41	Frequency RFG time of V/f separation	0xCB29	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: RFG time forced to 0 1: Preset RFG time							
	Description: Used to select the RFG time of V/f separation frequency. The setpoint 0 indicates the acceleration/deceleration time of the frequency reference is forced to 0. The setpoint 1 indicates the acceleration/deceleration is set based on normal operation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-42	Cut-off frequency of V/f oscillation suppression filter	0xCB2A	1.0Hz~50.0Hz	8.0Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The motor may oscillate due to mechanical resonance in V/f mode. The system damping can be improved through vibration suppression algorithm. The oscillation frequency can be suppressed only when it is higher than the cut-off frequency of the oscillation suppression filter.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-43	Cut-off frequency for active V/f oscillation suppression	0xCB2B	10Hz~3000Hz	200Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The oscillation suppression is not activated when the motor speed is higher than this cut-off frequency.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
CB-44	VdcMaxCtrl feedforward coefficient	0xCB2C	0%~500%	0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to boost the synchronous frequency to prevent overvoltage caused by slow response when entering overvoltage suppression in V/f mode. The higher the setpoint, the better the dynamic responsiveness. However, an excessively high setpoint may result in motor oscillation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-45	Synchronous motor IF selection	0xCB2D	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
CB-46	Synchronous motor IF current	0xCB2E	0.0%~200.0%	50.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CB-47	Synchronous motor IF switchover frequency	0xCB2F	0.0%~100.0%	2.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CB-48	Hysteresis frequency for synchronous motor IF switchover	0xCB30	0.0%~100.0%	2.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CB-49	Synchronous motor IF current switchover time	0xCB31	0.001s~20.000s	0.100s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-50	PMVVC low-speed IF	0xCB32	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: When this function is enabled, the motor switches to IF operation mode during operating at the speed defined by CB-51.							

	The switchover speed is defined by CB-52. The function applies to applications requiring high torque at low speed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-51	PMVVC low-speed IF current	0xCB33	30~250	100	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the current during low-speed IF operation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-52	PMVVC low-speed IF speed switching threshold	0xCB34	2.0%~100.0%	10.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: When CB-50 is enabled, the IF mode applies when this threshold is not reached; the V/f mode applies when this threshold is reached.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-53	PMVVC oscillation suppression gain coefficient	0xCB35	0~500	100	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter specifies oscillation suppression gain in PMVVC mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-54	PMVVC filter time coefficient	0xCB36	0~500	100	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the filter time constant in PMVVC mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-55	PMVVC energy conservation control	0xCB37	Refer to "Value"	2	Unsigned 16 bit	Shutdown change	General user	Effective in real

	mode							time
	Value： 0： Fixed linear V/f curve 1： Fixed 30% reactive current 2： MTPA control							
	Description： Used to select the energy-saving control mode in VVC mode of the synchronous motor. 0: Fixed linear V/f curve 1: Fixed 30% reactive current 2: MTPA control maximum torque-to-current ratio and maximum torque output per unit current							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-56	VVC current loop adaptation coefficient	0xCB38	0%~1000%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： Used to adjust VVC current loop strength and weakness.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-57	MTPA adaptation coefficient of VVC	0xCB39	0%~1000%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： Used to adjust the intensity of VVC energy-saving control.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-60	SFC control enable switch	0xCB3C	0~1	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description： When this function is turned on, the original synchronous motor VVC mode will switch to stator magnetic linkage orientation control.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CB-61	SFC control weak magnetic integral	0xCB3D	0~1000	200	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the field weakening controller integral coefficient in stator magnet linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-62	SFC control M-axis ratio	0xCB3E	1~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the M-axis controller proportional coefficient in stator linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-63	SFC control M-axis integral	0xCB3F	1~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the M-axis controller integral coefficient in stator magnetic linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-64	SFC control T-axis ratio	0xCB40	1~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the T-axis controller proportional coefficient in stator magnetic linkage control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-65	SFC control T-axis integral	0xCB41	1~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the T-axis controller integral coefficient in stator magnetic linkage control mode.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
CB-66	Flux lower limit of SFC	0xCB42	0%~1000%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the min. allowable flux output in the stator flux linkage control mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-67	Waiting time of SFC switchover	0xCB43	0ms~10000ms	0ms	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the waiting time for IF switch-in of SFC in stator magnet linkage control mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-68	Flux coefficient setpoint of SFC	0xCB44	0%~1000%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust target output flux in stator linkage control mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-69	Coil control mode	0xCB45	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: V/f separation active 1: IF separation active							
	Description: Used to define whether to use V/f separation or IF separation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-70	Voltage source for coil IF separation	0xCB46	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real

								time

Value：

0：Digital setting (CB-71)
1：AI1
2：AI2
3：AI3
4：Pulse reference (DI5)
5：Multi-reference
6：Simple PLC
7：PID
8：Communication
Others：F connector

Description：

Defines the target current reference source when the coil current and frequency are separated.

0: Digital setting (CB-71)

The IF separation current is set through CB-71.

1: AI1

The IF separation current is inputted by current or voltage signal through AI1. The frequency is calculated according to the AI curve.

2: AI2

The IF separation current is inputted by current or voltage signal through AI2. The frequency is calculated according to the AI curve.

3: AI3

The IF separation voltage is inputted by current or voltage signal through AI3. The frequency is calculated according to the AI curve. The AC drive has two AI terminals by default, and the AI3 terminal needs to be provided through the I/O expansion card.

4: Pulse reference (DI5)

The IF separation voltage is set through DI5. The frequency is calculated based on the relationship curve between the pulse frequency and running frequency.

5: Multi-reference

In multi-reference mode, different combinations of DI terminal states correspond to different reference values. The four multi-reference terminals can be grouped in different ways to indicate 16 states, which correspond to 16 frequency references (percentage x maximum frequency) in group FC.

6: Simple PLC

The IF separation voltage is set by simple PLC. For details, see the function description of simple PLC.

7: PID

The IF separation voltage is set through PID. For details, see descriptions of the PID function.

8: Communication

The IF separation current is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment.

Others: F connector

Read the connector value through setting the parameter No. of a float connector. The value being read is used as the IF separation current in speed control. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CB-71	Current reference for coil IF separation	0xCB47	1.00%~120.00%	20.00%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the current reference value in IF control mode in percentages.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-72	Voltage rise time for coil IF separation	0xCB48	0.000s~65.000s	0.000s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The current rise time of the IF separation is the time required for the output current to accelerate from 0 to the motor rated current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-73	Current fall time for coil IF separation	0xCB49	0.000s~65.000s	0.000s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The current fall time of the IF separation is the time required for the output current to accelerate from 0 to the motor rated current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-74	Max. current value for coil IF separation	0xCB4A	1.00%~120.00%	100.00%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the max. current limit in IF control mode in percentages.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-75	Stop mode for coil IF separation	0xCB4B	Refer to "Value"	2	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Frequency and voltage declined to 0 independently							

	1： Frequency declined to 0 after current declined to 0 2： Coast to stop
	Description： Used to select the respective stop modes for the coil current and frequency. 0: The frequency/current declines to 0 independently based on respective deceleration time. 1: The current declines to 0 based on the deceleration time. Then the frequency declines to 0 based on the deceleration time. 2: The current/frequency coasts to stop, regardless of the deceleration curve.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-76	PM observer stator resistance coefficient	0xCB4C	0%~1000%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CB-77	Waiting time of PM observer auto-tuning	0xCB4D	0s~1000s	0s	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： Defines the waiting time of PM observer online auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-78	Coil IF separation current control coefficient	0xCB4E	1~1000	50	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： Defines the current control coefficient in IF control mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-79	Coil IF separation sub-controller switch	0xCB4F	0~1	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： Used as the enable switch for negative sequence controller in IF control mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-80	Proportional coefficient	0xCB50	1%~1000%	100%	Unsigned	Real time	Expert	Effective

	of coil IF separation sub-controller				16 bit	changes	user	in real time
	Description: Defines the negative sequence controller proportional coefficient in IF control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-81	Integral coefficient of coil IF separation sub-controller	0xCB51	1%~1000%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the negative sequence controller integral coefficient in IF control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-82	Voltage limit of coil IF separation sub-controller	0xCB52	1%~100%	40%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the output voltage limit for negative sequence controller in IF control mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-83	Coil transformer change ratio	0xCB53	1.0~100.0	1.0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-85	Synchronous motor observer switchover	0xCB55	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Mode 0 1: Mode 1							
	Description: Synchronous motor observer mode switchover 0: Mode 0 New SVC observer type							

	1: Mode 1 Original SVC observer type							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-86	Switchover frequency of synchronous motor SVC model	0xCB56	0.0%~100.0%	10.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CB-87	Synchronous motor SVC model switchover hysteresis frequency	0xCB57	0.0%~100.0%	5.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CB-88	Synchronous motor SVC model parameter 0	0xCB58	0~100	5	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CB-89	Synchronous motor SVC model parameter 1 lower limit	0xCB59	1~100	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CB-90	Synchronous motor SVC model parameter 6	0xCB5A	1~10	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-91	Synchronous motor SVC model parameter 1	0xCB5B	1~10000	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CB-92	Synchronous motor SVC model parameter 2	0xCB5C	1~10000	5	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CB-93	Synchronous motor SVC model parameter 3	0xCB5D	1~100	30	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CB-94	Synchronous motor SVC model parameter 4	0xCB5E	-100~+100	20	Signed 16 bits	Real time changes	Expert user	Effective in real time
CB-95	Synchronous motor SVC model parameter 5	0xCB5F	0~50000	30	Unsigned 16 bit	Real time changes	Expert user	Effective in real

								time

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-96	Synchronous motor SVC command word	0xCB60	Refer to "Value"	62	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time

Value:

Bit	Name	Value
bit 0	Low-speed processing mode	0: Disable 1: Mode 1 2: Mode 2
bit2	Energy saving optimization	0: Disable 1: Enable
bit3	Online auto-tuning of back EMF	0: Disable 1: Enable
bit4	Inductance mode	0: Fixed value 1: Saturation value 2: Mode 1 3: Mode 2

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CB-97	Synchronous motor SVC low speed threshold 1	0xCB61	0.0%~10.0%	0.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CB-98	Synchronous motor SVC low speed threshold 2	0xCB62	0.0%~10.0%	0.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CB-99	Synchronous motor SVC low speed voltage coefficient	0xCB63	0%~100%	50%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

CC Motor Control and Protection Parameters of Motor 4

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CC-00	Startup mode	0xCC00	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Direct start 1: Flying start 2: Pre-excitation start (AC asynchronous motor) 3: SVC quick start							
	Description: Flying start is recommended if you need to start a motor that is rotating at a high speed. The pre-excitation start and SVC quick start apply to AC asynchronous motors only. 0: Direct start The AC drive adopts direct start, which is suitable for most loads. 1: Flying start The AC drive first judges the speed and direction of the motor and starts at the motor frequency tracked. 2: Pre-excitation start (for AC asynchronous motor) This mode applies only to inductive AC asynchronous motors in SVC and FVC control modes. Pre-excitation of the motor before start can improve the responsiveness of the motor and reduce the starting current. 3: SVC quick start It is applicable only to the asynchronous motor SVC control mode. This mode can be used to shorten the acceleration time. This mode can be enabled when the system inertia is large and quick start is required, but a torque shock can also be generated.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-01	Speed tracking mode	0xCC01	Refer to "Value"	4	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: From the stop frequency 1: From the power frequency 2: From the maximum frequency 3: Reserved 4: Magnetic field directional speed tracking (MD290)							
	Description: The start frequency of flying start upon restart varies with different modes. The motor rotation direction cannot be detected during flying start. Therefore, the direction defined by the present start command must be the same as the direction at the last stop event. Otherwise, flying start fails. 0: Starting from the stop frequency The search mode from the stop frequency is to search for 0 Hz from the frequency at the previous stop. If external force drives the motor to a higher speed than the speed at stop, the flying start mode is not applicable. 1: Starting from the mains frequency							

	This mode is applicable to the scenario where the motor is restarted after stop for a long time. 2: Starting from the max. frequency Track down from the max. frequency. This mode is applicable to generating loads. 3: Reserved 4: Magnetic field position-based speed tracking Used for fast speed tracking in V/f mode (static motor parameter auto-tuning is required).

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-02	Speed of speed tracking	0xCC02	1~100	20	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to select the speed tracking speed. The higher the setpoint, the higher the tracking speed. But an excessively high value may lead to unstable tracking.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-03	Startup frequency	0xCC03	0.00Hz~10.00Hz	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the startup frequency for direct start of the AC drive. When the frequency reference is lower than the startup frequency, the AC drive will not start but stay standby.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-04	Startup frequency hold time	0xCC04	0.0s~100.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter defines the hold time during which the output frequency remains at the startup frequency. After this hold time elapses, the AC drive will accelerate/decelerate to the reference frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-05	DC braking current at startup	0xCC05	0%~100%	50%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description:							

	A larger DC braking current indicates stronger braking force. 100% corresponds to the rated motor current (the current upper limit is 80% of the rated current of the AC drive).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-06	DC braking time at startup	0xCC06	0.0s~100.0s	0.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter defines the time for DC braking at startup, which is valid only when the startup mode is direct start.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-07	Stop mode	0xCC07	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Decelerate to stop 1: Coast to stop 2: Stop at maximum capability							
	Description: This parameter is used to select the stop mode of the AC drive. 0: Decelerate to stop Once the stop command is input, the AC drive decreases the output frequency to 0 and then stops based on the deceleration time. 1: Coast to stop Once the stop command is input, the AC drive immediately stops output. The motor then coasts to stop based on the mechanical inertia. 2: Stop at maximum capability. The motor speed reference is set to 0 forcibly. The motor decelerates to 0 based on the maximum output capacity. The motor torque or current may reach the limit value during deceleration.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-08	Start frequency of DC braking at stop	0xCC08	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: During decelerating to stop, the drive starts DC braking when the operating frequency drops below the value of F6-11.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-09	DC braking delay at stop	0xCC09	0.0s~100.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the running frequency decreases to the start frequency of DC braking at stop, the AC drive stops output and starts DC braking after this waiting time.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-10	DC braking current at stop	0xCC0A	0%~100%	50%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: A larger DC braking current indicates stronger braking force. 100% corresponds to the rated motor current (the current upper limit is 80% of the rated current of the AC drive).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-11	DC braking time at stop	0xCC0B	0.0s~100.0s	0.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: If this parameter is set to 0, DC braking is disabled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-12	Speed tracking sweep current limit closed loop Kp	0xCC0C	0~1000	500	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: It takes effect when CC-01 is set to 0, 1, or 2. It is used to set the proportional gain of the current suppression PI regulator during the speed search process in the flying start mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-13	Frequency sweeping current amplitude	0xCC0D	0~1000	800	Unsigned 16 bit	Real time changes	General user	Effective in real

	closed-loop Ki in speed tracking							time
	Description: Close-loop current Ki in torque tracking							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-14	Speed tracking current	0xCC0E	30%~200%	80%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Generally, overcurrent will occur on the asynchronous motor due to large slip when flying start is adopted. The current must be limited for preventing overcurrent. This parameter is used to set the motor current to be suppressed in the process of flying start.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-15	Current loop multiple	0xCC0F	10%~600%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the current loop regulation coefficient during speed tracking. The higher the current, the quicker the tracking speed. But an excessively high setpoint may lead to oscillation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-16	Demagnetization time (valid for asynchronous motors)	0xCC10	0.00s~5.00s	0.50s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the minimum waiting time for restart after shutdown.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-17	Over-excitation enable	0xCC11	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive							

	1： Activated when the motor is in the deceleration and power generation state 2： Activated when the motor is in the deceleration state and the bus voltage exceeds the overvoltage threshold
	Description： When the energy generated during deceleration is too large, the energy generated can be partially consumed by switching on the over-excitation. 0: Disabled 1: Active when the motor is decelerating and generating 2: Active when the motor decelerates and the bus voltage pump rises above the threshold (the bus voltage threshold is the value of overvoltage suppression threshold minus 100 V)

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-18	Over-excitation suppression additional current value	0xCC12	0%~200%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Indicates the current amplitude superimposed based on the original excitation current, which is a ratio to the rated motor current.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-19	Over-excitation gain	0xCC13	0.01~2.50	1.25	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Over-excitation function adjustment coefficient							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-20	Parameter auto-tuning upon startup	0xCC14	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value：

Bit	Name	Value
bit 0	Auto-tuning of synchronous motor starting magnetic pole position	0: Disable 1: Enable
bit1	Starting quick auto-tuning of stator resistance	0: Disable 1: Enable

bit2	Auto-tuning of high-frequency injection magnetic pole position	0: Disable 1: Enable 2: Adaptive
bit4	Starting IGBT short circuit detection	0: Disable 1: Enable
bit5	Starting short circuit to ground detection (reserved)	0: Disable 1: Enable
bit6	Starting phase loss detection (reserved)	0: Disable 1: Enable
bit7	Pre-positioning before start of synchronous motor	0: Disable 1: Enable

Description:

Configure steps related to self-test and auto-tuning before motor start

Bit0: Magnetic pole position auto-tuning enabled upon start of synchronous motor

0: Disable

Magnetic pole position auto-tuning not enabled upon start of synchronous motor

1: Enable

Magnetic pole position auto-tuning enabled upon start of synchronous motor

Bit1: Quick auto-tuning of stator resistance enabled upon start of synchronous motor

0: Disable

Quick auto-tuning of stator resistance not enabled upon start of synchronous motor

1: Enable

Quick auto-tuning of stator resistance enabled upon start of synchronous motor

Bit2: Magnetic pole position auto-tuning through high-frequency injection

0: Disable

Do not use high-frequency injection for magnetic pole position auto-tuning.

1: Enable

Use high-frequency injection for magnetic pole position auto-tuning.

2: Adaptive

The AC drive uses proper method to auto-tune magnetic pole position.

Bit4: Start IGBT short circuit auto-inspection

0: Disable

IGBT short circuit auto-inspection is not performed upon start of IGBT.

1: Enable

IGBT short circuit auto-inspection is performed upon start of IGBT.

Bit5: Enable short-circuit to ground auto-inspection (reserved)

reserved bit, no function

Bit6: Phase loss auto-inspection (reserved)

Reserved bit, no function

Bit7: Pre-positioning before start of synchronous motor

0: Disable

No pre-positioning is performed before start of synchronous motor.

	1: Enable Pre-positioning is started before start of the synchronous motor.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-21	Motor parameter auto-tuning direction	0xCC15	0~1	1	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the direction of rotation for dynamic auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-22	Back EMF auto-tuning vibration suppression gain of synchronous motor	0xCC16	0.0~30.0	3.2	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Used to suppress oscillation that occur during back EMF auto-tuning of synchronous motor. If oscillation occurs during back EMF auto-tuning, increase the setpoint properly.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-23	Target speed of rotation auto-tuning	0xCC17	30.0%~100.0%	70.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Used to set the speed during auto-tuning of no-load current and mutual inductance curve of asynchronous motor. When the bus voltage is lower than 70% of the normal value or the motor is not allowed to operate at high speed, decrease this speed.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-24	Target speed 1 of inertia auto-tuning	0xCC18	10.0%~CC-25	40.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: During inertia auto-tuning, the motor may accelerate/decelerate repeatedly between this speed and CC-25 to auto-tune the inertia.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-25	Target speed 2 of inertia auto-tuning	0xCC19	CC-24~100.0%	60.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: During inertia auto-tuning, the motor may accelerate/decelerate repeatedly between this speed and CC-24 to auto-tune the inertia.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-26	Overcurrent prevention of mutual inductance saturation curve	0xCC1A	0~1	1	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: If the mutual inductance curve of the asynchronous motor is over-saturated, this parameter can be used to prevent overcurrent during voltage rise.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-27	Motor parameter auto-tuning item configuration	0xCC1B	Refer to "Value"	125	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Value:

Bit	Name	Value
bit0	Self-adaption of speed loop parameters	0: Disable 1: Enable
bit1	Self-adaption of current loop parameters	0: Disable 1: Enable
bit2	Non-linear auto-tuning of the drive	0: Disable 1: Enable
bit3	Phase-to-phase deviation coefficient auto-tuning	0: Disable 1: Enable
bit4	Auto-tuning of initial magnetic pole position	0: Disable 1: Enable
bit5	Auto-tuning of synchronous motor D/Q-axis inductance model	0: Disable 1: Enable
bit6	Auto-tuning of system moment of inertia	0: Disable 1: Enable

bit7	Auto-tuning of High-frequency injection magnetic pole position	0: Disable 1: Enable
bit8	Auto-tuning of DC injection	0: Disable 1: Enable
bit9	Auto-tuning of no-load current vector	0: Disable 1: Enable
bit10	Speed source of no-load current vector auto-tuning	0: Set by the user 1: Set internally
bit11	Back EMF calculation	0: Disable 1: Enable
bit12	Back EMF auto-tuning calculation mode	0: Mode 0 1: Mode 1

Description：

If some auto-tuning fails due to specific reasons, you can turn off the corresponding step can proceed with subsequent auto-tuning steps.

bit0: Adaptive speed loop parameters

0: Disable

Disable the auto-tuning of adaptive speed loop parameter based on motor parameters.

1: Enable

Enable the auto-tuning of adaptive speed loop parameter based on motor parameters.

bit1: Adaptive current loop parameters

0: Disable

Disable the auto-tuning of adaptive current loop parameters based on motor parameters.

1: Enable

Enable the auto-tuning of adaptive current loop parameters based on motor parameters.

bit2: Non-linear auto-tuning of the drive

0: Disable

Disable non-linear auto-tuning of the drive.

1: Enable

Enable non-linear auto-tuning of the drive.

bit3: Phase-to-phase deviation coefficient auto-tuning

0: Disable

Disable the phase-to-phase deviation coefficient auto-tuning.

1: Enable

Enable the phase-to-phase deviation coefficient auto-tuning.

bit4: Auto-tuning of initial magnetic pole position of synchronous motor

0: Disable

Disable the auto-tuning of initial magnetic pole position of synchronous motor.

1: Enable

Enable the auto-tuning of initial magnetic pole position of synchronous motor.

bit5: Auto-tuning of synchronous motor D/Q-axis inductance model

	0: Disable Disable the auto-tuning of synchronous motor D/Q-axis inductance model. 1: Enable Enable the auto-tuning of synchronous motor D/Q-axis inductance model. bit6: Auto-tuning of system moment of inertia 0: Disable Disable the auto-tuning of system moment of inertia. 1: Enable Enable the auto-tuning of system moment of inertia. bit7: Auto-tuning of magnetic pole position through high-frequency injection 0: Disable Disable the auto-tuning of magnetic pole position through high-frequency injection. 1: Enable Enable the auto-tuning of magnetic pole position through high-frequency injection. bit8: Auto-tuning through DC injection 0: Disable Disable the auto-tuning through DC injection. 1: Enable Enable the auto-tuning through DC injection. bit9: Auto-tuning of no-load current vector 0: Disable Disable the auto-tuning of no-load current vector. 1: Enable Enable the auto-tuning of no-load current vector. bit10: Speed source of no-load current vector auto-tuning 0: User-defined The user setting is used as the source. 1: Set internally The source is set internally through the software. bit11: Back EMF calculation 0: Disable The back EMF is not calculated. 1: Enable The back EMF is calculated. bit12: Back EMF auto-tuning calculation mode 0: Mode 0 The back EMF is calculated through mode 0. 1: Mode 1 The back EMF is calculated through mode 1.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-28	OFF3 stop mode	0xCC1C	Refer to "Value"	0	Unsigned	Shutdown	General	Effective

					16 bit	change	user	in real time
	Value： 0： Quick stop 1： Stop at maximum capability							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-29	Stop mode during running	0xCC1D	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value： 0： OFF1 stop mode 1： OFF2 stop mode 2： OFF3 stop mode							
	Description： Mode of stop during running 0: Stop at OFF1 The stop mode is defined by OFF1 stop command. 1: Stop at OFF2 The stop mode is defined by OFF2 stop command. 2: Stop at OFF3 The stop mode is defined by OFF3 stop command.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-30	Stop mode for torque control	0xCC1E	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value： 0： Coast to stop forcibly 1： Switch to speed control mode and then stop 2： Maintain torque control mode until zero speed and then block							
	Description： Defines the stop mode in the torque mode. The setpoint 0 indicates the output is blocked directly and the motor coasts to stop. The setpoint 1 indicates the drive decelerates to stop after switching to the speed mode. The setpoint 2 indicates the torque mode still applies and the output will be blocked when the motor speed decelerates to 0 rpm due to the load.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
CC-31	MTPA filter time	0xCC1F	0~8000	20	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the Id filter time set by the synchronous motor MTPA. The lower the setpoint, the faster the MTPA response. Note that an excessively low setpoint may lead to torque oscillation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-32	Proportional gain adjustment coefficient	0xCC20	0.1~2.0	1.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing the setpoint improves the dynamic responsiveness and current tracking performance during DC braking. An excessively high setpoint may lead to motor oscillation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-33	Integral gain adjustment coefficient	0xCC21	0.1~2.0	1.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing the setpoint improves the dynamic responsiveness and current tracking performance during DC braking. An excessively high setpoint may lead to motor oscillation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-34	Zero-speed threshold	0xCC22	0.1%~200.0%	2.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the threshold for motor zero speed during decelerate-to-stop. An excessively low setpoint may cause the motor stop failure when the motor speed is near zero but exceeds this threshold. An excessively high setpoint may cause the motor to rotate when the drive output has been blocked. Set this parameter based on the actual stop performance.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-35	Zero-speed stop delay	0xCC23	0.00s~10.00s	0.10s	Unsigned	Shutdown	General	Effective

					16 bit	change	user	in real time
	Description: The drive blocks output when the motor actual speed keeps lower than the zero speed threshold during deceleration to stop after the period defined by this parameter elapses.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-36	Setting channel execution interval	0xCC24	0~20	4	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
CC-37	Trial current for speed tracking of synchronous motor	0xCC25	5.0%~50.0%	10.0%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the current during speed tracking of synchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-38	Minimum frequency for speed tracking of synchronous motor	0xCC26	0.0Hz~100.0Hz	0.0Hz	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: When the frequency is lower than this setpoint, the motor is at zero speed and starts directly.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-39	Angle compensation for speed tracking of synchronous motor	0xCC27	0~360	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Used to reduce the current surge after speed tracking.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-40	Parameter auto-tuning of synchronous motor upon startup	0xCC28	0~1	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: Used to apply quick magnetic pole auto-tuning during initial power-on.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-41	Current motor angle	0xCC29	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
CC-42	Forward torque limit 1	0xCC2A	0.0%~400.0%	150.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Digital setting of positive torque limit							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-43	Reverse torque limit 1	0xCC2B	0.0%~400.0%	150.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Digital setting of negative torque limit							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-44	Source of forward torque limit 2	0xCC2C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: 400% 0: F-connector							
	Description: Defines the positive torque limit. The minimum between this value and CC-42 is used as the final value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-45	Source of reverse torque limit 2	0xCC2D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

	Value： 0： –400% 0： F-connector
	Description： Defines the negative torque limit. The minimum between this value and CC-43 is used as the final value.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-46	Ramp (FRG) selection bit 0	0xCC2E	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

CC-46	Value： 0： 0 1： 1 2： Terminal function input 3： DI1 4： DI2 5： DI3 6： DI4	7： DI5 8： DI6 9： DI7 10： DI8 11： DI9 12： DI10 13： DI11	14： DI12 15： DI13 16： DI14 17： DI15 18： DI16 0： B-connector
	Description： Four groups of acceleration/deceleration time are available, which can be switched by the four states of bit0 and bit1 values of the ramp (RFG). The acceleration time indicates the time required by the AC drive to accelerate from 0 Hz to the acceleration/deceleration base frequency (F0-25). The deceleration time indicates the time required by the AC drive to decelerate from the acceleration/deceleration base frequency (F0-25) to 0 Hz. 0: Inactive 1: Active 2: Terminal function input 3~18: Select the ramp (RFG) through high/low level of DI for DI1 to DI16. Others: B connector		

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-47	Ramp (FRG) selection bit 0	0xCC2F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

CC-47	Value： 0： 0 1： 1 2： Terminal function input 3： DI1	7： DI5 8： DI6 9： DI7 10： DI8	14： DI12 15： DI13 16： DI14 17： DI15

	4： DI2 5： DI3 6： DI4		11： DI9 12： DI10 13： DI11		18： DI16 0： B-connector			
	Description： Four groups of acceleration/deceleration time are available, which can be switched by the four states of bit0 and bit1 values of the ramp (RFG). The acceleration time indicates the time required by the AC drive to accelerate from 0 Hz to the acceleration/deceleration base frequency (F0-25). The deceleration time indicates the time required by the AC drive to decelerate from the acceleration/deceleration base frequency (F0-25) to 0 Hz. 0: Inactive 1: Active 2: Terminal function input 3~18: Select the ramp (RFG) through high/low level of DI for DI1 to DI16. Others: B connector							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-50	Motor overload protection	0xCC32	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value： 0： Disabled 1： Enabled							
	Description： Used to select whether to enable the motor overload protection function. The drive judges whether the motor is overloaded according to the inverse time-lag curve. When the motor overload is detected, the AC drive will report an overload fault. 0: Disabled The motor overload protection function is disabled. When this parameter is set to 0, it is recommended to install a thermal relay before the motor for protection. 1: Enabled The motor overload protection function is enabled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-51	Motor overload protection gain	0xCC33	0.20~10.00	1.00	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： The motor overload protection gain is calculated according to the percentage of time when the motor runs continuously at a certain overload point without reporting an overload fault. It is used to adjust the actual overload fault report time of the AC drive when motor overload occurs.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-52	Motor overload determine coefficient	0xCC34	50%~100%	80%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The value of motor overload determine coefficient is calculated according to the percentage of time when the motor runs continuously at a certain overload point without reporting overload determine. This function is used to give a determine signal to the control system through DO before motor overload protection. This signal is used to determine how long in advance to send the determine signal before the motor overload protection is triggered. A larger coefficient means later transmission of the determine signal. When the accumulative output current of the AC drive is higher than the value of the overload time (value Y of motor overload protection inverse time-lag curve) multiplied by CC-52 (Motor overload determine coefficient), the multi-functional DO of the AC drive outputs a motor overload determine signal.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-53	V/f overvoltage stall suppression gain	0xCC35	1~500	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing CC-53 improves the control effect of the bus voltage, but the output frequency will fluctuate. If the output frequency fluctuates greatly, reduce CC-53 appropriately. The function of CC-53 is the same as that of CB-24.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-54	V/f overvoltage stall suppression protection voltage	0xCC36	330.0V~800.0V	770.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the bus voltage reaches the setpoint, the drive starts overvoltage stall protection. In this case, the function of CC-54 is the same as that of CB-23.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-55	Protection against input phase loss/contactor close T13 power supply unit fault protection	0xCC37	Refer to "Value"	11	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Input phase loss protection	0: Disabled 1: Enabled when both software and hardware input phase loss conditions are met 2: Enabled when software input phase loss conditions are met 3: Enabled when hardware input phase loss conditions are met
Tens	Contactor close protection	0: Disabled 1: Enable
Hundreds	T13 power supply unit fault protection	0: Disable 1: Enable

Description:

This function parameter determines whether to perform input phase loss or contactor pickup protection through the ones and tens position.

After the input phase loss protection function is enabled, if the three-phase input power supply, driver board, lightning protection board, main control board, or rectifier bridge is abnormal, the AC drive will report E012.0 (input phase loss).

Ones: Input phase loss protection

0: Input phase loss inhibited

Input phase loss is not detected.

1: Protection triggered when software and hardware input phase loss conditions are met

Input phase loss protection is triggered only when the hardware and software detections meet the fault conditions.

2: Protection triggered when software input phase loss conditions are met

Input phase loss protection is triggered when software detection reaches the fault condition.

3: Protection triggered when hardware input phase

Tens: Contactor close protection selected for models of 450 kW and below; fan fault selected for models of 500 kW and above

0: Disable contactor close protection

1: Enable contactor close protection

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-56	Output phase loss protection	0xCC38	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
Ones	Output phase loss protection upon power-on	0: Disabled 1: Enabled
Tens	Output phase loss protection before running	0: Disabled 1: Enabled

	Description: Ones: It determines whether to perform output phase loss protection. If protection is disabled but power output phase loss occurs, the AC drive does not detect the fault. At this moment, actual current is larger than the current displayed on the operating panel. 0: Disable Output phase loss protection is disabled during operation. 1: Enable Output phase loss protection is enabled during operation. It takes about several seconds to detect output phase loss during operation. In low-frequency operations or applications where risks exist in start with phase loss, this function can be used to detect phase loss fault upon start. However, in applications where short start time is required, do not use this function. 0: Disable The output phase loss protection is inhibited before operation. 1: Enable The output phase loss protection is enabled before operation.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-57	Power dip ride-through	0xCC39	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Decelerate 2: Decelerate to stop 3: Suppress voltage dip							
	Description: The function enables the AC drive to keep running upon an instantaneous power failure. When the system encounters a power failure, the AC drive makes the motor work in the generating state to keep the bus voltage around the "threshold for enabling power dip ride-through". This function prevents the AC drive from stopping due to input undervoltage. 0: Disabled The power dip ride through function is disabled. 1: Decelerate, bus voltage constant control When power failure occurs, the bus voltage stays at a value around the "voltage threshold for enabling power dip ride-through". In this mode, when the grid voltage recovers, the AC drive restores the target output frequency based on the acceleration time. 2: Decelerate to stop When a power loss occurs, the AC drive decelerates to stop. In this mode, if the drive does not decelerate to 0 and the power supply recovers, the drive continues running. 3: Voltage dip suppression In this mode, the AC drive will not stop due to undervoltage caused by voltage dip. The voltage dip suppression time is set							

	by CC-71.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-58	Voltage threshold for disabling power dip ride-through	0xCC3A	80%~100%	85%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the voltage threshold for disabling power dip ride-through. 100% corresponds to 540 V. This value is slightly lower than the bus voltage before power loss. Upon power loss, the bus voltage is maintained at about CC-60 (threshold for enabling power dip ride-through). When the power supply recovers, the bus voltage rises from CC-60 (threshold for enabling power dip ride-through) to CC-58 (threshold for recovery from power dip ride-through). During this period, the output frequency of the AC drive keeps decreasing until the bus voltage reaches CC-58 (threshold for recovery from power dip ride-through).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-59	Delay of voltage recovery from power dip	0xCC3B	0.0s~100.0s	0.5s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter is used to set the time required for the bus voltage to rise from CC-58 (threshold for recovering from power dip ride-through) to the voltage before power failure.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-60	Voltage threshold for enabling power dip ride-through	0xCC3C	60%~100%	80%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: This parameter is used to set the voltage level at which the bus voltage is maintained upon power failure. When power loss occurs, the bus voltage is retained at a value around CC-60 (threshold for enabling power dip ride-through).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-61	Protection upon load loss	0xCC3D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled							

	1： Enabled
	Description： If load loss protection is enabled, when output current of the AC drive falls below detection level (F9-64) for longer than time set in B6-48, the AC drive initiates load loss protection action (the action can be selected from F9-49 and the default is coast-to-stop.) Once the load recovers during protection, the drive will restore to run at the set frequency. 0: Invalid load loss protection detection is invalid. This detection will not be performed 1: Active Load loss protection detection is active.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-62	Load loss detection level	0xCC3E	0.0%~100.0%	10.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： If load loss protection is enabled, when output current of the AC drive falls below detection level (CC-62) for longer than time set in CC-63, the AC drive initiates load loss protection action (the action can be selected from F9-49 and the default is coast-to-stop.) Once the load recovers during protection, the drive will restore to run at the set frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-63	Load loss detection time	0xCC3F	0.0s~60.0s	1.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： If load loss protection is enabled, when output current of the AC drive falls below detection level (CC-62) for longer than time set in CC-63, the AC drive initiates load loss protection action (the action can be selected from F9-49 and the default is coast-to-stop.) Once the load recovers during protection, the drive will restore to run at the set frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-64	Overspeed detection level	0xCC40	0.0%~50.0%	20.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： During overspeed protection, when the detected motor speed exceeds F0-10 (Maximum frequency) for a percentage higher							

	than CC-64 (Overspeed detection level) and for longer than the time set by CC-65 (Overspeed detection time), the AC drive reports a motor overspeed fault (E43.00) and acts as selected by F9-50 (Fault protection action). When CC-65 (Overspeed detection time) is set to 0.0s, the overspeed detection function is disabled. The overspeed protection is valid only in the FVC mode (F0-01 = 1).

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-65	Overspeed detection time	0xCC41	0.0s~60.0s	1.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: During overspeed protection, when the detected motor speed exceeds F0-10 (Maximum frequency) for a percentage higher than CC-64 (Overspeed detection level) and for longer than the time set by CC-65 (Overspeed detection time), the AC drive reports a motor overspeed fault (E43.00) and acts as selected by F9-50 (Fault protection action). When CC-65 (Overspeed detection time) is set to 0.0s, the overspeed detection function is disabled. The overspeed protection is valid only in the FVC mode (F0-01 = 1).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-66	Detection level of excessive speed deviation	0xCC42	0.0%~50.0%	20.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed detected is higher than the set frequency and the difference is higher than CC-66 for a period longer than the time set by CC-67, the drive reports excessive speed deviation fault (E42.00) and acts accordingly as defined by F9-50. If CC-67 is set to 0.0s, the excessive speed deviation detection is disabled. The excessive speed error detection function is valid only when the FVC mode is selected for the AC drive (F0-01 = 1).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-67	Detection time of excessive speed deviation	0xCC43	0.0s~60.0s	5.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed detected is higher than the set frequency and the difference is higher than CC-66 for a period longer than the time set by CC-67, the drive reports excessive speed deviation fault (E42.00) and acts accordingly as defined by F9-50. If CC-67 is set to 0.0s, the excessive speed deviation detection is disabled. The excessive speed error detection function is valid only when the FVC mode is selected for the AC drive (F0-01 = 1).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-68	Power dip ride-through gain Kp	0xCC44	1~100	40	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is valid only in the "decelerate, bus voltage constant control" (CC-57 is set to 1) mode. If undervoltage is likely to occur during power dip ride-through, increase the power dip ride-through gain and the power dip ride-through integral coefficient.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-69	Power dip ride-through integral coefficient Ki	0xCC45	1~100	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is valid only in the "decelerate to stop" (CC-57 is set to 2) mode. If undervoltage is likely to occur during power dip ride-through, increase the power dip ride-through gain and the power dip ride-through integral coefficient.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-70	Deceleration time of power dip ride-through	0xCC46	0.0s~300.0s	20.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is valid only in the "decelerate to stop" (CC-57 is set to 2) mode. When the bus voltage is lower than the value of CC-60, the AC drive decelerates to stop. The deceleration time is determined by this parameter instead of F0-18.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-71	Voltage dip suppression time	0xCC47	0.1s~600.0s	0.5s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This function prevents AC drive stop caused by undervoltage when instantaneous power failure occurs due to voltage dip. This parameter is valid only when CC-57 is set to 3.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
CC-72	Motor protection	0xCC48	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name
bit 0	Motor overload judgment (reserved)
bit1	Motor overtemperature detection (reserved)
bit2	PG fault detection (reserved)
bit3	Current control error detection
bit4	Motor step loss error detection
bit5	Motor stall detection
bit6	Synchronous motor demagnetization protection
bit7	SVC speed open-loop stall protection (reserved)
bit8	Reserved
bit9	Parameter setting error
bit10	Output load loss detection (reserved)
bit11	Runaway protection
bit12	Speed deviation too large (reserved)
bit13	Speed reversal protection (reserved)
bit14	Overspeed protection (reserved)

Description:

Protective function switch of the motor

Bit3: Determine whether the feedback current of the motor controller follows the reference.

Bit4: Determine whether the feedback flux of asynchronous motor flux controller follows the reference.

Bit5: Determine whether the motor is stalled.

Bit6: Determine whether the transient current of the synchronous motor exceeds the protection threshold.

Bit9: Determine whether the motor nameplate and auto-tuning parameters are wrong.

Bit11: Determine whether SVC is diverged.

Other bits are reserved.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-73	Motor stall time	0xCC49	0.0s~65.0s	2.0s	Unsigned 16 bit	Real time changes	General user	Effective in real time

Description:

When the motor speed setpoint exceeds the fault frequency, the torque reaches the limit state, and the fault time is

	exceeded, a fault indicating the motor is stalled will be reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-74	Motor stall frequency	0xCC4A	0.0%~600.0%	6.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the motor speed setpoint exceeds the fault frequency, the torque reaches the limit state, and the fault time is exceeded, a fault indicating the motor is stalled will be reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-75	Motor stall detection time	0xCC4B	0.0s~10.0s	0.5s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the feedback flux of asynchronous motor flux controller and the set flux exceed the detection threshold and reach the set time, a step loss fault will be reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-76	Stall detection threshold	0xCC4C	0.0%~100.0%	30.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the feedback flux of asynchronous motor flux controller and the set flux exceed the detection threshold and reach the set time, a step loss fault will be reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-77	Current control exception detection time	0xCC4D	0.00s~1.00s	0.05s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to judge whether the motor feedback current follows the set deviation threshold. If the error exceeds the threshold and reaches the set time, a fault will be reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CC-78	Current control exception detection threshold	0xCC4E	0.0%~200.0%	25.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to judge whether the motor feedback current follows the set deviation threshold. If the error exceeds the threshold and reaches the set time, a fault will be reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-79	Synchronous motor overcurrent threshold	0xCC4F	0.0%~500.0%	300.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: A fault will be reported when the phase current of the motor exceeds the threshold (based on the rated motor current).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-81	Speed deviation detection	0xCC51	0~1	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to judge whether the motor feedback speed follows the setting. If the deviation keeps exceeding the threshold (F9-69) after the time defined by F9-70 elapses, a fault will be reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-82	Skip frequency 1	0xCC52	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The frequency jump function enables the AC drive to avoid mechanical resonance point of the load. This parameter specifies the first jump frequency. If it is set to 0, the first frequency jump function is disabled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-83	Skip frequency 2	0xCC53	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	The frequency jump function enables the AC drive to avoid mechanical resonance point of the load. This parameter defines the second jump frequency. If it is set to 0, the second jump frequency is canceled.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-84	Skip frequency 3	0xCC54	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The frequency jump function enables the AC drive to avoid mechanical resonance point of the load. This parameter defines the third jump frequency. If it is set to 0, the third jump frequency is canceled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-85	Skip frequency 4	0xCC55	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The frequency jump function enables the AC drive to avoid mechanical resonance point of the load. This parameter defines the fourth jump frequency. If it is set to 0, the fourth jump frequency is canceled.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-86	Skip frequency band	0xCC56	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When the running frequency accelerates to the value near the jump frequency during acceleration, the AC drive runs for a period at the current frequency and then jumps over the jump frequency. The jump band is twice of CC-86 (Jump frequency band). When the running frequency decelerates to the value near the jump frequency during deceleration, the AC drive runs for a period at the current frequency and then jumps over the jump frequency. The jump band is twice of CC-86 (Jump frequency band).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-87	Source of frequency upper limit	0xCC57	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value:							

	0：CC-88 1：AI1 2：AI2 3：AI3	4：Pulse reference 5：Communication reference Others：F connector
	Description： 0: CC-88 (Frequency upper limit) The frequency upper limit is set by CC-88. 1: AI1 The frequency upper limit is input by current or voltage signal through the AI1. The frequency is calculated according to the preset AI curve. 2: AI2 The frequency upper limit is input by current or voltage signal through the AI2. The frequency is calculated according to the preset AI curve. 3: AI3 The frequency upper limit is input by current or voltage signal through the AI3. The frequency is calculated according to the preset AI curve. 4: Pulse reference (DI5) The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the maximum frequency. 5: Communication The frequency upper limit is set through communication. Others: F connector The frequency upper limit is set through the connector. Read the connector value through setting the parameter No. of a float connector. The value being read is used as the frequency upper limit. It is used for extension of common sources.	

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-88	Frequency upper limit	0xCC58	CC-90~F0-10	50.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： This parameter defines the maximum operating frequency of motors.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-89	Frequency upper limit offset	0xCC59	0.00Hz~F0-10	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： This parameter defines the offset of the frequency upper limit. It is used to adjust the output frequency upon minimum frequency reference signal when the frequency is set by an external analog signal (voltage or current).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-90	Frequency lower limit	0xCC5A	0.00Hz~CC-88	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter defines the minimum operating frequency of motors.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-91	Speed/Torque control mode	0xCC5B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Speed control 1: Torque control							
	Description: Control target selection: Speed control and torque control 0: Speed control The AC drive controls the motor speed. 1: Torque control The AC drive controls the motor output torque and does not control the speed.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-92	Overspeed protection enable	0xCC5C	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Used as motor overspeed protection enable switch. When the motor feedback speed absolute value is higher than the protection value for a certain period of time, the motor overspeed fault can be reported. 0: Disable The AC drive does not perform speed protection detection. 1: Enable The AC drive performs overspeed protection detection.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-93	Asynchronous motor SVC runaway protection enable	0xCC5D	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value： 0： Disabled 1： Enabled							
	Description： Used as the runaway function detection switch for asynchronous motor in SVC control. 0: Disable The AC drive does not detect whether a runaway occurs. 1: Enable the AC drive to detect whether the runaway condition occurs and perform runaway protection.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-94	Asynchronous motor SVC runaway protection detection time	0xCC5E	0.05s~0.50s	0.10s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Defines the threshold time for runaway detection of asynchronous motor in SVC control. It is active only when CC-93 is set to 1. This value defines the time for the asynchronous motor from entering the runaway state to reporting the fault.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-95	Asynchronous motor SVC runaway protection fault threshold	0xCC5F	10.0%~50.0%	15.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Defines the threshold of runaway detection of asynchronous motor in SVC control. It is valid only when CC-93 is set to 1. This value determines whether the runaway state applies.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-96	Speed reversal protection	0xCC60	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real

								time
	Value： 0： Disabled 1： Enabled							
	Description： Used as motor speed reversal detection enable switch. 0: Disable The AC drive does not detect whether the set frequency and motor speed are reversed. 1: Enable The AC drive performs speed reversal protection.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-97	Speed reversal detection time	0xCC61	0.00s~5.00s	0.50s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Defines the speed reversal detection time. It is active only when CC-96 is set to 1. A speed reversal fault can be reported when the time period during which the speed setpoint is opposite to the feedback speed exceeds this value.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-98	DC injection braking current rise time	0xCC62	0.00s~100.00s	0.00s	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description： Defines the time for braking current to rise to the target current during DC braking.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CC-99	DC braking superposition frequency	0xCC63	0.00Hz~100.00Hz	0.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： Used for start of synchronous motor without auto-tuning.							

CD Motor Observation and Vector Parameters (2) of Motor 4

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-00	Asynchronous motor FVC model switchover frequency	0xCD00	0%~1000%	20%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
CD-01	Asynchronous motor FVC model switchover hysteresis frequency	0xCD01	10%~50%	20%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
CD-02	Asynchronous motor FVC observer filter time	0xCD02	5ms~100ms	15ms	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
CD-03	Asynchronous motor FVC current model mode	0xCD03	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
CD-04	Asynchronous motor FVC pre-excitation output observation angle mode	0xCD04	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-05	Asynchronous motor SVC model switchover frequency	0xCD05	10%~20%	15%	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
CD-06	Defines the DC starting frequency of asynchronous motor in SVC mode.	0xCD06	0.1%~20.0%	0.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-07	Asynchronous motor SVC observer gain 1	0xCD07	10%~500%	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-08	Asynchronous motor SVC observer gain 2	0xCD08	10%~100%	20%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-09	Asynchronous motor SVC observer mode	0xCD09	0~3	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-10	Asynchronous motor SVC pre-excitation mode	0xCD0A	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
CD-11	Asynchronous motor SVC speed tracking mode	0xCD0B	0~1	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
CD-12	Defines the asynchronous motor high-speed model gain.	0xCD0C	0.0~3.0	0.5	Unsigned 16 bit	Shutdown change	General user	Effective in real time

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-14	Synchronous motor 1 model control	0xCD0E	Refer to "Value"	5	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Value:

Bit	Name
bit 0	Low speed processing
bit1	Low speed processing 1
bit2	Online auto-tuning of resistance
bit3	Online auto-tuning of back EMF
bit4	KS

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-15	Synchronous motor model K1	0xCD0F	10Hz~3000Hz	200Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-16	Synchronous motor model K1Max	0xCD10	100%~6000%	3000%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-17	Synchronous motor model KsMin	0xCD11	0.0~4.0	0.3	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

CD-18	Synchronous motor model Kspeed	0xCD12	50Hz~2000Hz	400Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-19	Synchronous motor frequency filter time constant	0xCD13	2ms~100ms	10ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-20	Frequency upper limit of synchronous motor Rs online auto-tuning	0xCD14	1.0%~20.0%	3.5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-21	Synchronous motor model Kr	0xCD15	0~50	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-22	Synchronous motor model Kr1	0xCD16	0%~50%	5%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-23	Synchronous motor low-speed D axis injection current	0xCD17	0%~100%	20%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-24	Synchronous motor model LowFreqTime1	0xCD18	0~500	50	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-27	Frequency lower limit of back EMF online auto-tuning	0xCD1B	10%~100%	25%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-28	Synchronous motor model LowFreq	0xCD1C	0.0%~2.0%	0.3%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-29	Synchronous motor model LowFreqTime	0xCD1D	0~100	10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-30	Percentage of pole	0xCD1E	50%~200%	100%	Unsigned	Real time	Expert	Effective

	auto-tuning current				16 bit	changes	user	in real time
	Description: Defines the target current of magnetic pole position auto-tuning of synchronous motor. If the magnetic pole position auto-tuning noise is too large, reduce this current. Note that excessively low current may cause magnetic pole position auto-tuning fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-31	Percentage of high frequency response current	0xCD1F	0%~100%	25%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-32	Percentage of HFI and SVC switching frequency	0xCD20	0%~30%	10%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-33	Observer parameter	0xCD21	10~200	100	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-34	Speed filter cut-off frequency	0xCD22	1Hz~200Hz	10Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-35	Carrier frequency during NS auto-tuning	0xCD23	2.00Hz~16.00Hz	8.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-36	Automatic calculation of NS auto-tuning voltage	0xCD24	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Enabled							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-37	Percentage of NS auto-tuning voltage	0xCD25	0%~100%	10%	Unsigned 16 bit	Real time changes	Expert user	Effective in real

	set manually							time
CD-38	Duration of HFI stage 1	0xCD26	50ms~500ms	150ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CD-40	Speed loop proportional gain 1	0xCD28	1~300	30	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This is the PID control parameter Kp for the speed loop, which affects the response speed of the motor speed. A larger Kp value indicates higher sensitivity and more intensive tuning. A smaller Kp value indicates lower sensitivity and less intensive tuning. The low-speed speed loop Kp is effective at low speed.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-41	Speed loop integral time 1	0xCD29	0.01s~10.00s	0.50s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The reciprocal of the speed loop integral time constant is the integral gain. The speed loop integral time constant affects the steady-state speed error of the motor and the stability of the speed loop system. If the speed loop integral time constant increases, the speed loop response slows down. For quicker response, a larger speed loop proportional gain is required. The low speed loop Ti is used at low speed.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-42	Switchover frequency 1	0xCD2A	0.00Hz~CD-45	5.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Speed loop PI parameters are divided into low-speed and high-speed groups. When the running frequency is lower than CD-42 (Switching frequency 1), the speed loop PI is adjusted by CD-40 and CD-41. When the running frequency is higher than CD-45 (Switching frequency 2), the speed loop PI is adjusted by CD-43 and CD-44. If the running frequency is between switchover frequency 1 and switchover frequency 2, the speed loop PI parameters switch linearly between the two groups of PI parameters. The parameter value must be lower than CD-45 (Switching frequency 2).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-43	Speed loop proportional gain 2	0xCD2B	1~300	20	Unsigned 16 bit	Real time changes	General user	Effective in real

								time
	Description: The greater the Kp value, the higher the adjustment sensitivity and the adjustment strength. The smaller the Kp value, the lower the adjustment sensitivity and the adjustment strength.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-44	Speed loop integral time 2	0xCD2C	0.01s~10.00s	1.00s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: The speed loop integral time constant affects the steady-state speed error of the motor and the stability of the speed loop system. Increasing the speed loop integral time constant slows down the response of the speed loop. In this case, increase the speed loop proportional gain to shorten the response time of the speed loop.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-45	Switchover frequency 2	0xCD2D	CD-42~F0-10	10.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Speed loop PI parameters are divided into low-speed and high-speed groups. When the running frequency is lower than CD-42 (Switching frequency 1), the speed loop PI is adjusted by CD-40 and CD-41. When the running frequency is higher than CD-45 (Switching frequency 2), the speed loop PI is adjusted by CD-43 and CD-44. If the running frequency is between switchover frequency 1 and switchover frequency 2, the speed loop PI parameters switch linearly between the two groups of PI parameters. The parameter value must be lower than CD-45 (Switching frequency 2).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-46	Vector control slip gain	0xCD2E	50%~200%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: In SVC mode, this parameter can be used to adjust the speed stability accuracy. For example, increase this parameter when the running frequency of the motor is lower than the output frequency of the AC drive. In FVC mode, this parameter can be used to adjust output current of the AC drive. For example, decrease this parameter gradually when a high-power AC drive is used to control a motor with low load capacity. Generally, you do not need to change the value of this parameter.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-47	Speed feedback filter time in SVC mode	0xCD2F	0.000s~0.100s	0.015s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: In the FVC mode (CD-59 = 1), the speed loop feedback filter time is effective. Adjusting the parameter can improve the motor stability. Increasing the value of this parameter enhances motor stability but slows down the dynamic response speed. Decreasing the value of this parameter speeds up dynamic response. Note that an excessively low value will lead to motor oscillation. The default value of this parameter applies to most of applications.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-49	Torque upper limit source in speed control mode (motoring)	0xCD31	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: CD-50 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication setting 6: Min. (AI1, AI2) 7: Max. (AI1, AI2) Others: F connector							
	Description: Defines the torque upper limit source in speed control mode (motoring). 0: CD-50 The torque upper limit in speed control is set by CD-50 (Digital setting of torque limit in speed control). 1: AI1 The torque upper limit is input by current or voltage signal through the AI1. The torque is calculated according to the preset AI curve. 2: AI2 The torque upper limit is input by current or voltage signal through the AI2. The torque is calculated according to the preset AI curve. 3: AI3 The torque upper limit is input by current or voltage signal through the AI3. The torque is calculated according to the preset AI curve. 4: Pulse reference (DI5) The torque upper limit in speed control mode is set through the DI5. The torque is calculated based on the curve of the relationship between the pulse frequency and running frequency. 5: Communication The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for							

	remote control or centralized control on multiple equipment. 6: Min. (AI1, AI2) The torque upper limit in speed control mode is the lower value between AI1 and AI2 inputs. 7: Max. (AI1, AI2) The torque upper limit in speed control mode is the higher value between AI1 and AI2 inputs. Others: F connector Read the connector value through setting the parameter No. of a float connector. The value being read is used as the motoring torque upper limit reference in speed control. It is used for extension of common sources. The full range of options other than 0 is the value of CD-50.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-50	Torque upper limit in speed control mode	0xCD32	0.0%~600.0%	150.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Digital setting of torque limit in speed control mode							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-51	Torque upper limit source in speed control mode (generating)	0xCD33	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Digital setting (CD-50) 1: AI1 2: AI2 3: AI3 4: Pulse reference (DI5) 5: Communication 6: Min. (AI1, AI2) 7: Max. (AI1, AI2) 8: Digital setting (CD-52) Others: F connector							
	Description: 0: CD-50 The torque upper limit in speed control is set by F2-10 (Digital setting of torque limit in speed control). 1: AI1 The torque upper limit is input by current or voltage signal through the AI1. The torque is calculated according to the preset AI curve. 2: AI2 The torque upper limit is input by current or voltage signal through the AI2. The torque is calculated according to the preset AI curve. 3: AI3 The torque upper limit is input by current or voltage signal through the AI3. The torque is calculated according to the preset							

	AI curve. 4: Pulse reference (DI5) The torque upper limit in speed control mode is set through the DI5. The torque is calculated based on the curve of the relationship between the pulse frequency and running frequency. 5: Communication The main frequency is set through communication. The running frequency is input through remote communication. The AC drive must be equipped with a communication card to communicate with the host controller. This mode is suitable for remote control or centralized control on multiple equipment. 6: Min. (AI1, AI2) The torque upper limit in speed control mode is the lower value between AI1 and AI2 inputs. 7: Max. (AI1, AI2) The torque upper limit in speed control mode is the higher value between AI1 and AI2 inputs. 8: Digital setting (CD-52) The torque upper limit in speed control mode is set by CD-52 (digital setting of torque upper limit in speed control). Others: F connector Read the connector value through setting the parameter No. of a float connector. The value being read is used as the generating torque upper limit reference in speed control. It is used for extension of common sources. The full range of options other than 0 and 8 is the value of CD-52.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-52	Torque upper limit in speed control mode (generating)	0xCD34	0.0%~600.0%	150.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Digital setting of torque upper limit in speed control mode							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-53	Synchronous motor current loop mode	0xCD35	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: No field weakening 1: Automatic adjustment mode 2: Calculation+Automatic adjustment 3: Synchronous motor normal mode 4: Asynchronous motor normal mode							
	Description: No field weakening In this mode, the max. motor speed is related to the bus voltage of the drive. The advantage is that the output current is low under the same load. The disadvantage is that the operating frequency cannot reach the set frequency. If higher speed is							

	needed, do not use this function. 1: Auto-tuning mode This mode is simple and reliable. In applications requiring quick field weakening, increase the value of CD-54 properly. Note that setting CD-54 to an excessively high value may cause unstable current. 2: Calculation+Auto-tuning This mode feature quick speed and applies to applications where the automatic adjustment mode cannot meet demands. 3: Synchronous motor normal mode This mode applies to high-speed operation of synchronous motor. 4: Synchronous motor normal mode This mode applies to field weakening operation of asynchronous motor.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-54	Field weakening gain	0xCD36	0.1~200.0	3.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Increasing the setpoint improves the dynamic response, but an excessively high setpoint may cause current oscillation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-57	Generating power limiting	0xCD39	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled in the whole process 2: Enabled at constant speed 3: Enabled during deceleration							
	Description: 0: Inactive Generating power limit inactive 1: Active throughout the process Generating power limit activated throughout the process 2: Active during operating at constant speed Generating power limit activated during operation at constant speed 3: Active during decelerated operation Generating power limit activated during decelerated operation							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CD-58	Generating power upper limit	0xCD3A	0.0%~200.0%	20.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: CD-58 is a percentage to the rated motor power. If overvoltage still occurs after you set the generating power limit, decrease the value of CD-58.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-59	Motor 4 control mode	0xCD3B	Refer to "Value"	2	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: SVC 1: FVC 2: V/f							
	Description: 0: Sensorless vector control (SVC) Indicates open-loop vector control, which is applicable to high-performance control applications. In this case, one AC drive can drive only one motor. This mode applies to such loads as machine tools, centrifuges, wire drawing machines, and injection molding machines. 1: Feedback vector control (FVC) Indicates closed-loop vector control. The motor must be configured with an encoder and the AC drive provides the PG card (optional) matching the encoder type. This mode is applicable to high-accuracy speed control or torque control applications, where one AC drive can drive only one motor. It is used for loads such as high-speed paper-making machinery, hoisting machinery, and elevators. 2: V/f control (open loop speed control) The V/f control mode is applicable to applications that require undemanding control performance on loads, such as fans and pumps. If one AC drive is used to control multiple motors, only the V/f control mode can be used.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-60	Initial position angle detection current of synchronous motor	0xCD3C	50~180	80	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The lower the current, the lower the noise generated during detection. Note that excessively low current may lead to inaccurate detection. Do not modify the default value in FVC mode.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
CD-61	Initial position angle detection of synchronous motor	0xCD3D	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Detected upon running 1: Not detected 2: Detected upon initial running after power-on							
	Description: The initial position angle detection can be used to prevent reverse run during start, which may result in noise. Set BD-61 in applications where the motor rotor position changes after stop and reverse run is inhibited upon start. In other applications, it can be set to 1 or 2. 0: Detected every time upon operation 1: Not detected 2: Detected upon initial operation after power-on							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-63	Salient pole rate adjustment gain of synchronous motor	0xCD3F	0.20~3.00	1.00	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Set CD-64 to 1. If the output current does not decrease or even increase under the same load, adjust CD-63. When the load does not change, adjust CD-63 until the minimum output current is reached.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-64	Maximum torque-to-current ratio control of synchronous motor	0xCD40	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: When the salient-pole motor is switched on, the output current decreases under the same load. 0: Disable 1: Enable							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
CD-65	Z signal correction	0xCD41	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Activated when ABZ encoder of the synchronous motor is used in FVC mode. Pulse loss or excessive pulses may be occur on the incremental ABZ encoder during operation due to interference, which may lead to orientation error of the synchronous motor, insufficient force output, or even runaway fault. After this function is enabled, the drive corrects the orientation angle based on Z signal to ensure reliability of long-term operation. 0: OFF Turn off Z signal correction. 1: ON Turn on Z signal correction.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-67	Low speed carrier frequency	0xCD43	0.5kHz~F0-15	2.0kHz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is used to set the carrier frequency of the motor at low speed to lower the motor noise in the V/f or FVC mode. The carrier frequency is the smaller one between F0-15 and CD-67. When the value of CD-67 is greater than or equal to 4 kHz, the value of CD-67 is active. When the value of CD-67 is lower than 4 kHz, 4 kHz is used.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-68	Position lock	0xCD44	0~1	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: 0: OFF 1: ON							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-69	Switchover frequency	0xCD45	0.00Hz~CD-42	0.30Hz	Unsigned	Real time	General	Effective

					16 bit	changes	user	in real time
	Description: Defines the position lock switchover frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-70	Position lock speed loop proportional gain	0xCD46	1~100	10	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop proportional gain when the operating frequency is lower than the position lock switchover frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-71	Position lock speed loop integral time	0xCD47	0.01s~10.00s	0.50s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop integral time when the operating frequency is lower than the position lock switchover frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-74	Motor tuning-free mode	0xCD4A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Off 1: Enabled before initial operation after power-on 2: Enabled before operation							
	Description: Used to auto-tune synchronous motor parameters before start (including stator resistance, magnetic pole position, D/Q-axis inductance and saturation model). The current starting time increases after this function is enabled. 0: Off 1: Enabled before initial operation after power-on 2: Enabled before operation							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
CD-75	Encoder direction auto-tuning and pre-positioning current	0xCD4B	0.0%~800.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the control current for encoder direction auto-tuning and pre-positioning auto-tuning, which is based on the rated motor current. The active current value is the set current value and the minimum value in the rated current of the drive.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-76	Initial position compensation angle	0xCD4C	0.0~359.9	0.0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the initial position compensation angle.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-80	Speed loop command word	0xCD50	Refer to "Value"	19	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
bit 0	Speed loop	0: Disabled 1: Enabled
bit1	Integration mode	0: Conventional integration 1: Position integration
bit2	Acceleration torque	0: Disabled 1: Enabled
bit3	Acceleration source	0: Function transfer torque 1: Automatic calculation 2: Function transfer acceleration
bit5	Anti-load disturbance	0: Disabled 1: Enabled

Description:

Bit0: The speed loop can be switched off through this parameter in specific process applications.

0: Disable

1: Enable

Bit1: Speed loop integral mode selection

	0: Traditional integral 2: Position-type integral Bit2: Acceleration feedforward enable switch, which can be used to improve speed following performance when speed reference changes 0: Disable 1: Enable Bit3: Acceleration feedforward torque source (0: Torque reference superimposed with the torque transmitted by AA-85; 1: Torque needed by acceleration calculated automatically through speed reference change and inertia; 2: Torque needed by acceleration calculated automatically through the acceleration transmitted by AB-00 and motor inertia) 0: Torque superposition 1: Automatic calculation 1: Acceleration superposition Bit5: Cancel the impact on the motor speed during sudden load change to improve dynamic speed performance 0: Disable 1: Enable

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-81	Motor stall fast integral cancel coefficient	0xCD51	0.0%~100.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When motor is stalled, output is still generated in the integral term of speed loop after the speed reference changes from zero to non-zero and back to zero again, leading to continuous torque output during zero speed reference. When this coefficient is a non-zero value, the speed loop integral term output will be decreased until this target value is reached.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-82	Integral torque	0xCD52	-100.0%~+100.0%	0.0%	Signed 16 bits	Real time changes	General user	Effective in real time
	Description: Defines the forced value of integral term in speed loop forced integral mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-83	Speed controller frequency window size	0xCD53	0.00Hz~10.00Hz	0.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description:							

	In the master-slave mode, when this drive is used as a slave in the torque mode, this frequency window is active.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-84	Current filter time for torque reference	0xCD54	0.0ms~100.0ms	0.0ms	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the filter time when the speed loop outputs the set torque current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-85	Acceleration torque	0xCD55	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: When the acceleration feedforward torque source is set to 0, this parameter is used to set the acceleration torque.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-87	Reference model bandwidth	0xCD57	0.00Hz~300.00Hz	0.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the speed filter time upon acceleration feedforward.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-88	Torque feedforward coefficient	0xCD58	0.0%~6553.5%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: This parameter is used to adjust the feedforward torque. With the acceleration feedforward enabled, if the feedback speed does not follow the reference during acceleration, increase this parameter value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-89	Vector control reference frequency filter time	0xCD59	0.0ms~100.0ms	0.0ms	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
CD-90	Vector control feedback frequency filter time	0xCD5A	0.0ms~100.0ms	0.0ms	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
CD-91	Load observation bandwidth	0xCD5B	0.00Hz~300.00Hz	0.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the load observer bandwidth.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-92	Load observation coefficient	0xCD5C	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to adjust the load observer torque of compensation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-93	Pseudo integral coefficient	0xCD5D	0.000~10.000	1.000	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust PDFF intensity.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-94	Torque coefficient enable	0xCD5E	Refer to "Value"	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Enabled							

	Description: 0: Disable The displayed output torque and torque current is calculated based on 1:1, without torque coefficient conversion. 1: Enable The actual flux is taken into account during calculating torque output, which is the actual torque.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-95	Low-frequency Kp switchover selection	0xCD5F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: 0 1: 1 2: Terminal function input 3: DI1 4: DI2 5: DI3 6: DI4 7: DI5 8: DI6 9: DI7 10: DI8 11: DI9 12: DI10 13: DI11 14: DI12 15: DI13 16: DI14 17: DI15 18: DI16 Others: B connector Note: When 3-18DI is used for switchover selection, the DI high level is active and low-frequency Kp switchover will be performed.							
	Description: When enabled, the proportional term of the speed loop is modified by AA-53. 0: 0 1: 1 2: Terminal function input 3~18: DI1 to DI16 controlled by high/low level of DI terminals Others: B connector							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-96	Center frequency of notch filter 1	0xCD60	0.0~4000.0	4000.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the torque current notch. When it is set to a non-zero value, the notch 1 is activated.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CD-97	Center frequency of notch filter 2	0xCD61	0.0~4000.0	4000.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Defines the torque current notch. When it is set to a non-zero value, the notch 2 is activated.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-98	Integral setting control word	0xCD62	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disabled 1: Enabled 0: B-connector							
	Description: After enabled, the integral term of speed loop is set by the channel in CD-99 forcibly. 0: Inactive 1: Set Others: B connector							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CD-99	Integral reference source	0xCD63	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Digital setting 1: AI1 2: AI2 3: AI3 4: Pulse reference 5: Communication 6: Multi-reference 7: Motor-driven potentiometer 8: PID 0: F-connector							
	Description: Forced value source of speed loop integral term 0: Digital setting CD-82 used as the source 1: AI1 The frequency reference is input by current or voltage signal through the AI1. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4. 2: AI2							

	The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4. 3: AI3 The frequency reference is input by voltage signal through AI3. The frequency is calculated according to the AI curve. AI curves can be set in parameter group F4. 4: Pulse reference (DI5) The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency (F4-28 to F4-31). 5: Communication The main frequency is set through communication. This mode is applicable to applications requiring remote control or centralized control of multiple devices. In this mode, you can input the frequency through remote communication. In this case, the AC drive must be installed with a communication card for communicating with the host controller. The communication address is 0x1000, indicating the percentage reference. The value ranges from -10000 to 10000. 0 represents 0%, 10000 represents 100%, and -10000 represents -100%. Note: Communication settings are generally used to write the frequency. It is recommended to select a connector for other parameter source selection. 6: Multi-reference In the multi-reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals (assigned with functions 12 to 15) can provide 16 states, corresponding to 16 frequencies (set by FC-00 to FC-15). 7: Motorized potentiometer The real-time target speed is set by the motorized potentiometer module output. 8: PID PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control. Set PID-related parameters in group FA. Others: F connector A parameter No. is set for a float connector, and the value of the connector is read as the auxiliary frequency reference. It is used for extension of common sources.

CE Motor Vector Parameters (3) of Motor 4

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-00	Externally transferred acceleration	0xCE00	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value:							

0： Inactive	4： Pulse reference	7： Motor-driven potentiometer
1： AI1	5： Communication	8： PID
2： AI2	6： Multi-reference	0： F-connector
3： AI3		

Description：

When set to a value other than 0, this parameter is used to set the acceleration.

0: Inactive

1: AI1

The frequency is input by voltage signal through the AI1. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4.

2: AI2

The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4.

3: AI3

The frequency reference is input by voltage signal through AI3. The frequency is calculated according to the AI curve. AI curves can be set in parameter group F4.

4: Pulse reference (DI5)

The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency (F4-28 to F4-31).

5: Communication

The main frequency is set through communication. This mode is applicable to applications requiring remote control or centralized control of multiple devices. In this mode, you can input the frequency through remote communication. In this case, the AC drive must be installed with a communication card for communicating with the host controller.

The communication address is 0x1000, indicating the percentage reference. The value ranges from -10000 to 10000. 0 represents 0%, 10000 represents 100%, and -10000 represents -100%.

Note: Communication settings are generally used to write the frequency. It is recommended to select a connector for other parameter source selection.

6: Multi-reference

In the multi-reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals (assigned with functions 12 to 15) can provide 16 states, corresponding to 16 frequencies (set by FC-00 to FC-15).

7: Motorized potentiometer

The real-time target speed is set by the motorized potentiometer module output.

8: PID

PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control. Set PID-related parameters in group FA.

Others: F connector

A parameter No. is set for a float connector, and the value of the connector is read as the auxiliary frequency reference. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-01	Current deviation threshold	0xCE01	0.3~2.0	0.5	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: This parameter is active only in ImCsr2 mode. When the feedback excitation current exceeds the set excitation current plus the threshold, the low-speed loop gain will no longer be zero.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-02	Current filter cycle setting	0xCE02	0~100	1	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Used to set the filter time set for the current loop, which is a multiplier relative to the execution time.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-03	Overturning torque limiting coefficient	0xCE03	0.0%~400.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust the motor torque limit. An excessively high setpoint may cause the motor to operate in the breakdown torque area, which means low torque output at high current. An excessively low setpoint may compromise the max. torque output capacity of the motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-04	Motoring power limiting coefficient	0xCE04	0.0%~400.0%	400.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
CE-05	Generating power limiting coefficient	0xCE05	0.0%~400.0%	400.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
CE-06	Overspeed limiting enable	0xCE06	0~1	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: Used to activate the overspeed controller in torque mode. 0: Inactive 1: Active

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-07	Sine wave frequency of bandwidth test	0xCE07	0Hz~1000Hz	0Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When testing the bandwidth in the speed loop ,the set speed is superimposed with the sine signal frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-08	Sine wave amplitude of bandwidth test	0xCE08	0%~100%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When testing the bandwidth in the speed loop, the set speed is superimposed with the sine signal amplitude.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-09	Bandwidth test enable	0xCE09	0~4	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When testing the bandwidth in the speed loop, the set speed is superimposed with the sine reference.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-10	Torque coefficient adjustment value	0xCE0A	0.0%~200.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to correct the coefficient of reluctance torque term of permanent magnet synchronous motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CE-11	Speed loop parameter calculation mode	0xCE0B	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: New solution 1: Compatible solution							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-12	Speed loop proportional gain in FVC mode	0xCE0C	0.00Hz~100.00Hz	8.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop proportional gain in FVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-13	Speed loop integral time in FVC mode	0xCE0D	0.000s~20.000s	0.080s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop integral time in FVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-14	Speed loop proportional gain in SVC mode	0xCE0E	0.00Hz~100.00Hz	5.00Hz	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop proportional gain in SVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-15	Speed loop integral time in SVC mode	0xCE0F	0.000s~20.000s	0.127s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the speed loop integral time in SVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-16	Low frequency proportional correction coefficient	0xCE10	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Activated when BE-11 is set to 0. When the speed is lower than CD-42, the speed loop parameter is adjusted through this parameter.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-17	Low frequency integral correction coefficient	0xCE11	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Activated when BE-11 is set to 0. When the speed is lower than CD-42, the speed loop parameter is adjusted through this parameter.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-18	Speed loop adaption factor	0xCE12	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: AI1 2: AI2 3: AI3 4: PULSE setting 5: Communication setting 6: Multi-speed reference 7: Motorized potentiometer 8: PID 0: F connector							
	Description: When the speed loop adaptive factor is not 0, the speed loop adaptive factor is set through this channel. 0: Inactive 1: AI1 The frequency is input by voltage signal through the AI1. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4. 2: AI2 The frequency reference is input by current or voltage signal through AI2. The frequency is calculated according to the preset AI curve. AI curves can be set in parameter group F4. 3: AI3 The frequency reference is input by voltage signal through AI3. The frequency is calculated according to the AI curve. AI							

curves can be set in parameter group F4.

4: Pulse reference (DI5)

The frequency upper limit is set through the DI5. The frequency is calculated based on the curve of the relationship between the pulse frequency and the setting frequency (F4-28 to F4-31).

5: Communication

The main frequency is set through communication. This mode is applicable to applications requiring remote control or centralized control of multiple devices. In this mode, you can input the frequency through remote communication. In this case, the AC drive must be installed with a communication card for communicating with the host controller.

The communication address is 0x1000, indicating the percentage reference. The value ranges from -10000 to 10000. 0 represents 0%, 10000 represents 100%, and -10000 represents -100%.

Note: Communication settings are generally used to write the frequency. It is recommended to select a connector for other parameter source selection.

6: Multi-reference

In the multi-reference mode, combinations of different DI terminal states correspond to different frequency reference. The four multi-reference terminals (assigned with functions 12 to 15) can provide 16 states, corresponding to 16 frequencies (set by FC-00 to FC-15).

7: Motorized potentiometer

The real-time target speed is set by the motorized potentiometer module output.

8: PID

PID is selected as the main frequency. As a general process control method, PID control is a closed-loop mechanism in which each controlled variable is stabilized at the target level. This is implemented through proportional, integral, and derivative calculation of the difference between the feedback signal and the target signal of the controlled variable and through adjustment of the AC drive output frequency. PID control is generally used in closed-loop control scenarios, such as constant pressure closed-loop control and constant tension closed-loop control. Set PID-related parameters in group FA.

Others: F connector

A parameter No. is set for a float connector, and the value of the connector is read as the auxiliary frequency reference. It is used for extension of common sources.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-19	Speed loop adaption switchover lower limit	0xCE13	0.000~10.000	0.400	Unsigned 16 bit	Real time changes	General user	Effective in real time
CE-20	Speed loop adaption switchover upper limit	0xCE14	0.000~10.000	1.000	Unsigned 16 bit	Real time changes	General user	Effective in real time
CE-21	Speed loop adaption correction upper limit	0xCE15	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the upper limit of speed loop adaptive correction.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-22	Speed loop adaption correction lower limit	0xCE16	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the lower limit of speed loop adaptive correction.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-23	Flux adaptation enable	0xCE17	0~1	1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When this function is enabled, the speed loop parameter decreases with the flux reduction in the field weakening range, which prevents speed loop oscillation in the field weakening range.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-24	Overspeed controller correction coefficient	0xCE18	0.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the adjustment value of torque reference when the speed limit is exceeded in the torque mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-25	Vector overvoltage/undervoltage suppression control command word	0xCE19	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
bit 0	Under voltage suppression	0: Disable 1: Enable
bit1	Overvoltage suppression	0: Disable 1: Enable
bit2	Automatic calculation of overvoltage/Under voltage suppression threshold	0: Disable 1: Enable

	bit3	Overvoltage/Under voltage suppression integral action	0: Disable 1: Enable

Description:
The command word takes effect in vector control mode.
Bit0: Undervoltage suppression
Bit1: Overvoltage suppression
Bit2: Automatic calculation of overvoltage/undervoltage suppression threshold (In automatic calculation mode, the overvoltage suppression threshold is overvoltage threshold minus 70 V, the undervoltage suppression threshold is undervoltage threshold plus 50 V.)
Bit3: Overvoltage/Undervoltage suppression integral action

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-26	Bus capacitance ratio	0xCE1A	50.0%~1000.0%	100.0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Description:
Used to adjust the overvoltage/undervoltage suppression PI parameter in the vector mode. Set this parameter based on the number of drives that share the same common bus in actual application.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-27	Vector undervoltage suppression exit from hysteresis frequency	0xCE1B	0.00Hz~10.00Hz	3.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Description:
When the operating frequency is higher than the minimum frequency plus this frequency, the undervoltage suppression state applies.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-28	Speed threshold for vector undervoltage suppression failure	0xCE1C	0.00Hz~20.00Hz	2.00Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Description:
When vector undervoltage suppression reaches this frequency, the undervoltage suppression state will be canceled.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-29	Dynamic adjustment	0xCE1D	0.0%~1000.0%	100.0%	Unsigned	Real time	General	Effective

	coefficient of vector overvoltage/undervoltage suppression				16 bit	changes	user	in real time
	Description: Used to set the proportional coefficient adjustment term of overvoltage/undervoltage suppression.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-30	Defines the activation voltage of vector undervoltage suppression.	0xCE1E	320.0V~540.0V	430.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time
CE-31	Defines the activation voltage of vector overvoltage suppression.	0xCE1F	650.0V~800.0V	770.0V	Unsigned 16 bit	Real time changes	General user	Effective in real time

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-32	Flux linkage control command word	0xCE20	Refer to "Value"	18741	Unsigned 16 bit	Real time changes	General user	Effective in real time

Value:

Bit	Name	Value
bit 0	Output voltage limit calculation filter mode	0: Symmetric filter 1: Asymmetric filter
bit1	Inverse ratio curve calculation mode of asynchronous motor	0: Inverse ratio synchronous frequency reduced 1: Inverse ratio speed reduced
bit2	Linkage feedforward of inverse ratio speed calculation	0: Disable 1: Enable
bit3	Reserved	
bit4	Reserved	
bit5	Field weakening through adjustment	0: Disable 1: Field weakening through adjustment
bit6	Linkage derivative feedforward	0: Disable 1: Enable
bit7	Energy-saving control	0: Disable 1: Enable
bit8	Flux closed-loop of asynchronous motor	0: Disable 1: Enable
bit9	Reserved	

bit10	Reserved	
bit11	Asynchronous motor pre-excitation mode selection	0: Pre-excitation based on time
bit12	Pre-excitation current of asynchronous motor	0: Pre-excitation based on the set current 1: Pre-excitation current being the max. current allowed by the platform
bit13	Reserved	
bit14	Voltage outer loop mode	0: Voltage outer loop mode 0 1: Voltage outer loop mode 1

Description:

Bit00: Output voltage limit calculation filter mode

0 corresponds to first-order filter. 1 corresponds to bus voltage rise filter.

Bit01: Inverse ratio curve calculation mode of asynchronous motor

To prevent saturation of field weakening range, select 1 to lower the turnover frequency. The setting is active when Bit2 is set to 1.

Bit02: Inverse ratio speed calculation linkage feedforward

When bit02 is set to 1, the inverse ratio speed reduces when the output frequency exceeds the turnover frequency, thus improve the dynamic responsiveness during acceleration.

Bit05: Field weakening through adjustment

When bit05 is set to 1, the voltage outer loop adjustment is active.

Bit07: Energy-saving control

When the asynchronous motor is active, bit07 can be used to reduce the copper loss at light load during vector control.

Bit11: Pre-excitation mode of asynchronous motor

0: Pre-excitation done within the set time

1: Fixed current outputted during pre-excitation, exit when linkage reaching the setpoint

Bit12: Asynchronous motor pre-excitation current

0: Pre-excitation based on the current defined by AB-51

1: Pre-excitation based on the maximum current allowed by the drive, the pre-excitation time can be reduced

Bit14: Voltage outer loop mode

0: Synchronous motor mode

1: Asynchronous motor mode

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-33	Voltage margin	0xCE21	1%~50%	3%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

Description:

Decreasing the setpoint can improve voltage utilization. The current is smaller under the same load in the field weakening region. However, an excessively small setpoint will affect dynamic performance.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-34	Output voltage upper limit margin for auto adjustment of field weakening	0xCE22	1%~20%	3%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When CD-53 is set to 2, changing the setpoint affects the voltage margin, which is similar to CE-33.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-35	Filter time for calculating maximum output voltage	0xCE23	0ms~3000ms	10ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Increasing the filter time allows the maximum output voltage to change slowly but affects voltage utilization.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-36	Rated flux adjustment coefficient for calculation	0xCE24	0.1~2.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: You can decrease the value of this parameter if under excitation is required, or increase it if over-excitation is required.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-37	Field weakening frequency adjustment coefficient for calculation	0xCE25	0.8~1.2	1.1	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to adjust the conversion frequency calculated automatically by the AC drive. After the flux linkage feedforward is enabled, decreasing this value makes the drive enter the field weakening state in advance. This function is applicable to applications requiring high dynamic response with short acceleration time.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-38	Slip filter time for calculating field weakening frequency	0xCE26	0ms~3000ms	62ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: When flux linkage feedforward calculation by using inverse proportional speed is enabled, increasing the value of this parameter can reduce the fluctuation range of the calculated reference flux linkage.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-39	Feedback speed filtering	0xCE27	0ms~8000ms	50ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux linkage feedforward calculation by using inverse proportional speed is enabled, increasing the value of this parameter can reduce the disturbance to the calculated flux linkage feedforward introduced by speed test.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-40	Flux linkage rising filter time	0xCE28	0ms~8000ms	20ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux linkage feedforward calculation by using inverse proportional speed is enabled, this parameter defines the filter time of the asymmetric filter that takes effect only when the reference flux linkage increases.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-41	Field weakening control gain	0xCE29	1ms~200ms	50ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CE-42	Feedback voltage filter time	0xCE2A	0ms~3000ms	0ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Increasing the filter time can reduce the fluctuation of the excitation current setting. To increase the field weakening gain, reduce the filter time. Otherwise, the system will oscillate.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-43	Maximum demagnetization current of synchronous motor	0xCE2B	0%~500%	300%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: This parameter is used to limit the demagnetization current of synchronous motors to prevent faults such as overload. It is a percentage relative to the rated current.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-44	Voltage outer loop lower limit coefficient	0xCE2C	0~500	50	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter is used to limit the lower limit of flux linkage during field weakening for asynchronous motors to avoid limiting torque reduction.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-45	Flux linkage derivative feedforward coefficient	0xCE2D	0.0~1.5	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux linkage derivative feedforward of an asynchronous motor is enabled, this parameter can adjust the ratio of effective feedforward. A smaller value indicates smaller feedforward effect.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-46	Flux linkage derivative feedforward filter time	0xCE2E	0ms~3000ms	6ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Increasing the filter time can reduce the fluctuation of the calculated feedforward value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-47	Torque current rising filter time under energy conservation control	0xCE2F	0ms~3000ms	50ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When energy conservation control of an asynchronous motor is enabled, decreasing the value of this parameter can improve dynamic response and avoid a large drop in speed when a sudden load is applied. You need to increase this value when the output current fluctuates greatly.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-48	Torque current falling filter time under energy conservation control	0xCE30	0ms~3000ms	100ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When energy conservation control of an asynchronous motor is enabled, decreasing the value of this parameter can make the output current decrease rapidly after the load is reduced. You need to increase this value when the output current fluctuates greatly.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-49	Flux linkage lower limit coefficient under energy conservation control	0xCE31	0.00~0.50	0.10	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: This parameter defines the minimum flux linkage allowed under energy conservation control. A smaller value indicates more significant energy conservation effect when no load is applied, but it will affect dynamic response after the load is added.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-50	Switchover frequency coefficient	0xCE32	0.0~10.0	1.0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Description: Defines the minimum permissible frequency when ImCsr2 high-speed mode cuts in the PI section.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-51	Pre-excitation current	0xCE33	1%~200%	100%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: When pre-excitation of an asynchronous motor is implemented based on current, this parameter defines the reference excitation current as a percentage of the rated current.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

CE-52	Pre-excitation time	0xCE34	1ms~30000ms	1000ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When pre-excitation of an asynchronous motor is implemented based on time, this parameter defines the total excitation time. The actual excitation time will be shorter than the set time if remanence exists.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-53	Flux linkage closed-loop bandwidth frequency	0xCE35	0.0Hz~100.0Hz	1.0Hz	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux closed loop is enabled, increasing the setpoint can reduce the deviation of the flux linkage from the rated value during dynamic processes such as sudden load or acceleration and deceleration of the asynchronous motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-54	Feedback flux linkage filter time coefficient	0xCE36	0~200	4	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: When flux closed loop is enabled, increasing the setpoint can reduce fluctuation of the reference flux linkage. It is a percentage relative to the rotor time constant.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-55	Static output flux linkage filter time	0xCE37	0ms~5000ms	10ms	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Increasing the setpoint can reduce fluctuation of the reference flux linkage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-56	Current loop mode	0xCE38	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Value:							

	0： ImCsr2 mode 1： Complex vector mode 2： 880 mode 3： No field weakening
	Description： Decreasing the value of this parameter can enhance current loop following but also increase the overshoot and harmonics of the output current.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-57	PI regulator proportional gain adaptation with load	0xCE39	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	Expert user	Effective in real time
	Value： 0： Disabled 1： Enabled							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-58	Current loop damping	0xCE3A	0.2~10.0	0.8	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： Decreasing the value of this parameter can enhance current loop following but also increase the overshoot and harmonics of the output current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-59	Low-speed current loop Kp adjustment	0xCE3B	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description： The AC drive automatically calculates the current loop gain based on motor parameters. When the current oscillates at low speed or the torque fluctuates greatly, the set value can be reduced appropriately.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-60	High-speed current loop Kp adjustment	0xCE3C	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real

								time
	Description: The AC drive automatically calculates the current loop gain based on motor parameters. When the current oscillates at low speed or the torque fluctuates greatly, the set value can be reduced appropriately.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-61	Current loop Ki adjustment at low speed	0xCE3D	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The AC drive automatically calculates the current loop gain based on motor parameters. When the current oscillates at low speed or the torque fluctuates greatly, the set value can be reduced appropriately.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-62	High-speed current loop Ki adjustment	0xCE3E	0.1~10.0	2.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: The AC drive automatically calculates the current loop gain based on motor parameters. When the current oscillates at low speed or the torque fluctuates greatly, the set value can be reduced appropriately.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-63	D-axis current loop complex vector adjustment	0xCE3F	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CE-64	Q-axis current loop complex vector adjustment	0xCE40	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CE-65	Complex vector hysteresis frequency lower limit as a percentage of rated frequency	0xCE41	0%~CE-66	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the lower limit of complex vector hysteresis frequency, which is a percentage of rated frequency.							
Param	Name	Communication	Range	Default	Data	Change	User	Effective

		address			type	mode	authority	mode
CE-66	Complex vector hysteresis frequency upper limit as a percentage of rated frequency	0xCE42	CE-65~150%	0%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the upper limit of complex vector hysteresis frequency, which is a percentage of rated frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-67	ImCsr2 hysteresis switchover voltage upper limit as a percentage of saturation voltage	0xCE43	CE-68~95%	89%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the upper limit voltage for ImCsr2 hysteresis switchover, which is a percentage of saturation voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-68	ImCsr2 hysteresis switchover voltage lower limit as a percentage of saturation voltage	0xCE44	60%~CE-67	79%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the lower limit voltage for ImCsr2 hysteresis switchover, which is a percentage of saturation voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-69	ImCsr2 hysteresis switchover frequency hysteresis range as a percentage of rated frequency	0xCE45	1%~30%	10%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set ImCsr2 hysteresis range of hysteresis switchover frequency, which is a percentage of rated frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-70	ImCsr2 hysteresis	0xCE46	20%~150%	75%	Unsigned	Real time	Expert	Effective

	switchover frequency lower limit (below which the hysteresis condition does not take effect) as a percentage of the rated frequency				16 bit	changes	user	in real time
	Description: Used to set the lower limit of ImCsr2 hysteresis switchover frequency. The frequency hysteresis condition does not activate when this value is not reached. The setpoint is a percentage of rated frequency.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-71	ImCsr2 current loop Kss adjustment	0xCE47	0.1~10.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CE-72	Proportional gain adjustment coefficient corresponding to the maximum torque when proportional gain is adjusted with load	0xCE48	0.1~1.0	0.5	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the proportional gain adjustment coefficient corresponding to the max. torque.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-73	Torque upper limit setpoint as a percentage of rated torque when proportional gain is adjusted with load	0xCE49	CE-74~300%	200%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set the torque upper limit, which is a percentage of the rated torque.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-74	Torque lower limit setpoint as a percentage of rated torque when proportional gain is adjusted with load	0xCE4A	10%~CE-73	100%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time

	Description: Used to set the torque lower limit, which is a percentage of the rated torque.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-75	Derivative feedforward adjustment	0xCE4B	0.0~1.0	0.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CE-76	Decoupling control start frequency as a percentage of rated frequency	0xCE4C	20%~150%	60%	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Description: Used to set decoupling control starting frequency, which is a percentage of rated frequency.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-77	Decoupling control filter time adjustment coefficient	0xCE4D	0.1~3.0	1.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CE-78	Decoupling control output adjustment coefficient	0xCE4E	0.0~1.0	0.7	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-79	CPC feedforward enable	0xCE4F	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: 0: Disabled 1: Enabled							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-80	Current loop auxiliary command word	0xCE50	Refer to "Value"	0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
	Value: Bit / Name / Value							

bit 0	Complex vector angle limiting	0: Disabled 1: Enabled
bit1	Voltage angle limiting	0: Program internal limiting 1: Parameter setting
bit2	0 by default	0: No lower limit on the excitation current is imposed during the dynamic process. 1: A lower limit on the excitation current is imposed during the dynamic process in ImCsr2 mode.
bit3	Reserved (0 by default)	

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-81	Voltage angle upper limit	0xCE51	90°~180°	150°	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CE-82	Voltage angle lower limit	0xCE52	0°~90°	30°	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CE-83	Asynchronous motor D axis integral limit	0xCE53	0.500~1.000	0.707	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CE-84	Defines current loop carrier frequency upper limit.	0xCE54	5.0~16.0	8.0	Unsigned 16 bit	Real time changes	Expert user	Effective in real time
CE-85	Droop enable	0xCE55	0~1	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used in load distribution when a load is driven by multiple motors.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-86	Droop source	0xCE56	Refer to "Value"	1	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Line current 1: Torque reference							

	2： Speed adjustment output 3： Speed adjustment integral component
	Description： Used to adjust the reference frequency. The higher the setpoint, the higher the frequency adjustment value.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-87	Frequency reference droop coefficient	0xCE57	0.0%~50.0%	0.0%	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Used to adjust the soften source.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-88	FVC-SVC switchover mode	0xCE58	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value： 0： No switchover 1： Active switchover 2： Passive switchover (Switch to SVC mode when encoder open circuit is detected. If the encoder is recovered during operation, the FVC mode will be recovered after stop.) 3： Passive switchover (Switch to SVC mode when encoder open circuit is detected. If the encoder is recovered during operation, the FVC mode will be recovered during operation or after stop.)							
	Description： Used to select the mode for switching from FVC mode to SVC mode. 0: Do not switch to the SVC mode in the FVC mode. 1: Keep operating in FVC mode at low speed based on the speed frequencies set by AB-89 and AB-90, and then switch to SVC mode at high speed. This mode is applicable to operating conditions with signals disturbed. 2: Switch to SVC mode when encoder open circuit is detected. If the encoder is recovered during operation, the FVC mode will be recovered after stop. 3: Switch to SVC mode when encoder open circuit is detected. If the encoder is recovered during operation, the FVC mode will be recovered during operation or after stop.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-89	FVC-SVC switchover frequency	0xCE59	10%~500%	50%	Unsigned 16 bit	Shutdown change	General user	Effective in real time

	Description: Used to set the switchover frequency when "Switched actively" is selected for FVC-to-SVC mode.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-90	FVC-SVC switchover hysteresis	0xCE5A	10%~100%	10%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Used to set the hysteresis when "Switched actively" is selected for FVC-to-SVC mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-91	Active short circuit control	0xCE5B	Refer to "Value"	0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Disabled 1: Enabled							
	Description: Defines whether to enable active short circuit control.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-92	Delay time for entering active short circuit control	0xCE5C	0.0ms~5000.0ms	0.0ms	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the delay time before active short circuit control applies.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-93	Holding time of active short circuit control at stop	0xCE5D	0.1s~3600.0s	10.0s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the hold time before active short circuit control applies. The max. setpoint indicates the active short circuit control is always active.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-94	Current hysteresis loop high point coefficient in active short circuit control	0xCE5E	0.0%~120.0%	80.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The rated drive current is used as the basis. The actual hysteresis loop high point current is the min. value among voltage regulation, the highest safety current, and the setting value.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-95	Current hysteresis loop high/low point coefficient ratio in active short circuit control	0xCE5F	0.0%~99.9%	90.0%	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the hysteresis loop width of the current in active short circuit control, which is lower than 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-96	Overvoltage threshold in active short circuit control	0xCE60	330.0V~820.0V	780.0V	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: The active short circuit control is turned off when this voltage hysteresis loop is exceeded.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-97	Voltage control point in active short circuit control	0xCE61	330.0V~CE-96	750.0V	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the voltage control point during active short circuit control.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-98	Voltage control bandwidth in active short circuit control	0xCE62	0.00Hz~100.00Hz	5.00Hz	Unsigned 16 bit	Shutdown change	General user	Effective in real time

	Description: Defines the p value of voltage control. The PI input is the error voltage. The output is the high point of hysteresis loop current.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
CE-99	Voltage control time constant in active short circuit control	0xCE63	0.001s~10.000s	0.500s	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the i value controlled by voltage. The higher the setpoint, the lower the value of ki.							

H0 Fault Information

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-00	Code of active fault 1	0x8000	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current fault 1. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-01	Subcode of active fault 1	0x8001	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the subcode of current fault 1. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-03	Code of active fault 2	0x8003	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current fault 2. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-04	Subcode of active fault 2	0x8004	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the subcode of current fault 2. For example, E015.1 is displayed as 1.							
Param	Name	Communication	Range	Default	Data type	Change mode	User	Effective

		address					authority	mode
H0-06	Code of active fault 3	0x8006	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current fault 3. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-07	Subcode of active fault 3	0x8007	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the subcode of current fault 3. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-09	Code of active fault 4	0x8009	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current fault 4. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-10	Subcode of active fault 4	0x800A	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the subcode of current fault 4. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-12	Code of active fault 5	0x800C	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current fault 5. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-13	Subcode of active fault 5	0x800D	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the subcode of current fault 5. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-15	Code of active fault 6	0x800F	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current fault 6. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-16	Subcode of active fault 6	0x8010	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the subcode of current fault 6. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-18	Code of active limit 1	0x8012	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current minor fault 1. For example, L015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-19	Subcode of active limit 1	0x8013	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the subcode of current minor fault 1. For example, L015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-21	Code of active limit 2	0x8015	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current minor fault 2. For example, L015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-22	Subcode of active limit 2	0x8016	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the subcode of current minor fault 2. For example, L015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-24	Code of active limit 3	0x8018	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current minor fault 3. For example, L015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-25	Subcode of active limit 3	0x8019	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description:							

	Displays the subcode of current minor fault 3. For example, L015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-27	Code of active limit 4	0x801B	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current minor fault 4. For example, L015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-28	Subcode of active limit 4	0x801C	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the subcode of current minor fault 4. For example, L015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-30	Code of active limit 5	0x801E	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current minor fault 5. For example, L015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-31	Subcode of active limit 5	0x801F	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the subcode of current minor fault 5. For example, L015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-33	Code of active limit 6	0x8021	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current minor fault 6. For example, L015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-34	Subcode of active limit 6	0x8022	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the subcode of current minor fault 6. For example, L015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-36	Code of active alarm 1	0x8024	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time

	Description: Displays the master code of current alarm 1. For example, A015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-37	Subcode of active alarm 1	0x8025	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the subcode of current alarm 1. For example, A015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-39	Code of active alarm 2	0x8027	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current alarm 2. For example, A015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-40	Subcode of active alarm 2	0x8028	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the subcode of current alarm 2. For example, A015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-42	Code of active alarm 3	0x802A	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current alarm 3. For example, A015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-43	Subcode of active alarm 3	0x802B	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the subcode of current alarm 3. For example, A015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-45	Code of active alarm 4	0x802D	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current alarm 4. For example, A015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-46	Subcode of	0x802E	0~65535	0	Unsigned 16	Cannot be	Patrol user	Effective in

	active alarm 4				bit	changed		real time
	Description: Displays the subcode of current alarm 4. For example, A015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-48	Code of active alarm 5	0x8030	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current alarm 5. For example, A015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-49	Subcode of active alarm 5	0x8031	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the subcode of current alarm 5. For example, A015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-51	Code of active alarm 6	0x8033	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current alarm 6. For example, A015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H0-52	Subcode of active alarm 6	0x8034	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the subcode of current alarm 6. For example, A015.1 is displayed as 1.							

H1 Fault Setting Information

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-00	Fault code of exceptions in group 1	0x8100	0.0~199.9	0.0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the fault codes whose fault levels are to be modified in group 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-01	Handling of	0x8101	Refer to	6	Unsigned	Shutdown	General	Effective in

	exceptions in group 1		"Value"		16 bit	change	user	real time
	Value: 0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore 6: Not processed							
	Description: Used to set the fault level of the first group of fault codes. When this parameter is set to 5, this fault can be hidden as needed. When this parameter is set to 6, the fault level is restored to the default level before occurrence of the fault. When the set fault level is not within the permissible range, the value changes to 6 automatically. For example, the hardware overcurrent fault E002.1 allows the fault level to be set to "coast-to-stop" only. Therefore, if H1-00 is set to 2.1, H1-01 will automatically be restored to 6 even if H1-01 is set to 5.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-02	Fault code of exceptions in group 2	0x8102	0.0~199.9	0.0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the fault codes whose fault levels are to be modified in group 2.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-03	Handling of exceptions in group 2	0x8103	Refer to "Value"	6	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore 6: Not processed							
	Description: Used to set the fault level of the second group of fault codes.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-04	Fault code of exceptions in group 3	0x8104	0.0~199.9	0.0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the fault codes whose fault levels are to be modified in group 3							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
H1-05	Handling of exceptions in group 3	0x8105	Refer to "Value"	6	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore 6: Not processed							
	Description: Used to set the fault level of the third group of fault codes.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-06	Fault code of exceptions in group 4	0x8106	0.0~199.9	0.0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the fault codes whose fault levels are to be modified in group 4							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-07	Handling of exceptions in group 4	0x8107	Refer to "Value"	6	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore 6: Not processed							
	Description: Used to set the fault level of the fourth group of fault codes.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-08	Fault code of exceptions in group 5	0x8108	0.0~199.9	0.0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the fault codes whose fault levels are to be modified in group 5							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-09	Handling of exceptions in group	0x8109	Refer to "Value"	6	Unsigned 16 bit	Shutdown change	General user	Effective in real time

	5							
	Value: 0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore 6: Not processed							
	Description: Used to set the fault level of the fifth group of fault codes.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-10	Fault code of exceptions in group 6	0x810A	0.0~199.9	0.0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the fault codes whose fault levels are to be modified in group 6							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-11	Handling of exceptions in group 6	0x810B	Refer to "Value"	6	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore 6: Not processed							
	Description: Used to set the fault level of the sixth group of fault codes. When it is set to 5, the fault is hidden.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-12	Fault code of exceptions in group 7	0x810C	0.0~199.9	0.0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the fault codes whose fault levels are to be modified in group 7							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-13	Handling of exceptions in group 7	0x810D	Refer to "Value"	6	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Coast to stop 4: Limit the current							

	1：Stop based on the stop mode 2：Continue to run 3：Limit the power				5：Ignore 6：Not processed			
	Description： Used to set the fault level of the 7th group of fault codes. When it is set to 5, the fault is hidden.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-14	Fault code of exceptions in group 8	0x810E	0.0~199.9	0.0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description： Defines the fault codes whose fault levels are to be modified in group 8							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-15	Handling of exceptions in group 8	0x810F	Refer to "Value"	6	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value： 0：Coast to stop 1：Stop based on the stop mode 2：Continue to run 3：Limit the power				4：Limit the current 5：Ignore 6：Not processed			
	Description： Used to set the fault level of the 8th group of fault codes. When it is set to 5, the fault is hidden.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-16	Fault code of exceptions in group 9	0x8110	0.0~199.9	0.0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description： Defines the fault codes whose fault levels are to be modified in group 9							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-17	Handling of exceptions in group 9	0x8111	Refer to "Value"	6	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value： 0：Coast to stop 1：Stop based on the stop mode 2：Continue to run 3：Limit the power				4：Limit the current 5：Ignore 6：Not processed			

	Description: Used to set the fault level of the 9th group of fault codes. When it is set to 5, the fault is hidden.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-18	Fault code of exceptions in group 10	0x8112	0.0~199.9	0.0	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Description: Defines the fault codes whose fault levels are to be modified in group 10							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H1-19	Handling of exceptions in group 10	0x8113	Refer to "Value"	6	Unsigned 16 bit	Shutdown change	General user	Effective in real time
	Value: 0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignore 6: Not processed							
	Description: Used to set the fault level of the 10th group of fault codes. When it is set to 5, the fault is hidden.							

H2 Fault setting information

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-00	Source of external fault 1 (NO)	0x8200	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: Active 0: B-connector							
	Description: Used to set the source of external fault 1 (NO). 0: Invalid, indicating that the NO state is satisfied and no fault is reported. 1: Active, indicating that the NO state is interrupted and E015.1 is reported. When a DI is assigned with function 11 (External fault NO input), this DI prevails.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-01	Source of external	0x8201	Refer to	1	Unsigned	Real time	General	Effective in

	fault 2 (NC)		"Value"		16 bit	changes	user	real time
	Value: 0: Inactive 1: Active 0: B-connector							
	Description: Used to set the source of external fault 1 (NC). 0: Invalid, indicating that the NC state is not met, E015.2 is reported. 1: Active, indicating that the NC state is satisfied. When a DI is assigned with function 33 (External fault NC input), this DI prevails.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-02	Source of external alarm 1	0x8202	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Reserved 0: B-connector							
	Description: Used to set external alarm 1 source. If the value of the parameter that the corresponding bit connector is connected to is 1, fault L063.1 will be reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-03	Source of external alarm 2	0x8203	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Reserved 0: B-connector							
	Description: Used to set external alarm 2 source. If the value of the parameter that the corresponding bit connector is connected to is 2, fault L063.2 will be reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-04	Source of custom fault 1	0x8204	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: Active 0: B-connector							
	Description: Used to set the source of user-defined fault 1. E027.1 is reported when it is active. When a DI is assigned with function 44 (User-defined fault 1), this DI prevails.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-05	Source of custom fault 2	0x8205	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Inactive 1: Active 0: B-connector							
	Description: Used to set the source of user-defined fault 2. E027.2 is reported when it is active. When a DI is assigned with function 45 (User-defined fault 2), this DI prevails.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-06	Source of custom fault 3	0x8206	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Reserved 0: B-connector							
	Description: Used to set the source of customized fault 3. If the value of the parameter that the corresponding bit connector is connected to is 1, fault E027.3 will be reported.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-07	Source of custom fault 4	0x8207	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Reserved 0: B-connector							
	Description: Used to set the source of customized fault 4. If the value of the parameter that the corresponding bit connector is connected to is 1, fault E027.4 will be reported.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-08	Source of custom alarm 1	0x8208	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Reserved 0: B-connector							
	Description: Used to set the source of customized fault 1. If the value of the parameter that the corresponding bit connector is connected to is 1, fault L028.1 will be reported.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-09	Source of custom alarm 2	0x8209	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Reserved 0: B-connector							
	Description: Used to set the source of customized alarm 2. If the value of the parameter that the corresponding bit connector is connected to is 1, fault L028.2 will be reported.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-10	Source of custom alarm 3	0x820A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Reserved 0: B-connector							
	Description: Used to set the source of customized alarm 3. If the value of the parameter that the corresponding bit connector is connected to is 1, fault L028.3 will be reported.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-11	Source of custom alarm 4	0x820B	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Reserved 0: B-connector							
	Description: Used to set the source of customized alarm 4. If the value of the parameter that the corresponding bit connector is connected to is 1, fault L028.4 will be reported.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-12	Auto reset enable	0x820C	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disable 1: Enable							
	Description: Used to enable automatic fault reset, which is enabled by default.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

H2-15	Auto reset disabled upon manual reset	0x820F	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Yes 1: No							
	Description: Used to set whether the automatic reset process can be terminated by manual reset. If it is equal to 0, the operator manually resets the fault when a fault occurs. The machine does not reset automatically. If it is equal to 1, the operator manually resets the fault when it occurs. The machine is reset automatically.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-16	Interval for clearing auto reset count	0x8210	0min~6000min	10min	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the time for restoring "Number of automatic resets". 1. When the value is set to 10 minutes and the number of automatic fault resets is exhausted (H2-17), the number of automatic fault resets will be reloaded to the value set in F9-09. 2. When it is set to 0, the number of automatic fault resets can always be restored.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-17	Active fault reset attempt count	0x8211	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: 1. Displays the accumulative number of fault resets. 2. When manual reset applies and the number of automatic fault resets is exhausted, this parameter value will be cleared to zero.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-18	Clearing upon fault reset count reach	0x8212	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Cleared 1: Not cleared							
	Description: Set whether the fault reset times are restored when the fault reset times are exhausted (H2-17). 0: When the number of automatic fault resets is exhausted and the time for automatic resets is reached (H2-16), the number of automatic fault resets can be restored automatically. 1: When the number of automatic fault resets is exhausted, the number of automatic fault reset will not be restored automatically.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

H2-20	Code of non-resettable exception 1	0x8214	0~200	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the master code of fault 1, which is used to prevent automatic fault reset. This parameter is equivalent to the black list of automatic fault reset. If a fault occurs in the black list, the automatic fault reset action will not be performed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-21	Subcode of non-resettable exception 1	0x8215	0~9	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the sub-code of fault 1, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-22	Code of non-resettable exception 2	0x8216	0~200	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the master code of fault 2, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-23	Subcode of non-resettable exception 2	0x8217	0~9	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the sub-code of fault 2, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-24	Code of non-resettable exception 3	0x8218	0~200	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the master code of fault 3, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-25	Subcode of non-resettable exception 3	0x8219	0~9	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description:							

	Defines the sub-code of fault 3, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-26	Code of non-resettable exception 4	0x821A	0~200	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the master code of fault 4, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-27	Subcode of non-resettable exception 4	0x821B	0~9	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the sub-code of fault 4, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-28	Code of non-resettable exception 5	0x821C	0~200	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the master code of fault 5, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-29	Subcode of non-resettable exception 5	0x821D	0~9	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the sub-code of fault 5, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-30	Code of non-resettable exception 6	0x821E	0~200	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the master code of fault 6, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-31	Subcode of non-resettable exception 6	0x821F	0~9	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

	Description: Defines the sub-code of fault 6, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-32	Code of non-resettable exception 7	0x8220	0~200	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the master code of fault 7, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-33	Subcode of non-resettable exception 7	0x8221	0~9	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the sub-code of fault 7, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-34	Code of non-resettable exception 8	0x8222	0~200	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the master code of fault 8, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-35	Subcode of non-resettable exception 8	0x8223	0~9	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the sub-code of fault 8, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-36	Code of non-resettable exception 9	0x8224	0~200	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the master code of fault 9, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-37	Subcode of non-resettable	0x8225	0~9	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

	exception 9							
	Description: Defines the sub-code of fault 9, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-38	Code of non-resettable exception 10	0x8226	0~200	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the master code of fault 10, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-39	Subcode of non-resettable exception 10	0x8227	0~9	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the sub-code of fault 10, which is used to prevent automatic fault reset.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-42	Restart after auto reset	0x822A	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disable 1: Enable							
	Description: 0: The AC drive does not restart after a fault occurs and the fault is automatically reset. 1: The AC drive automatically restarts after a fault occurs and the fault is automatically reset. Note: This function is available only when the automatic fault reset function is enabled.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-43	Waiting time of restart after auto reset	0x822B	0.0s~600.0s	0.5s	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Used to set the waiting time from automatic fault reset to automatic restart.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-44	Forced flying start during auto restart	0x822C	Refer to "Value"	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value: 0: Disable							

	1： Enable
	Description： Used to set whether to enable flying start for automatic restart upon fault. 0: The drive restarts according to the start mode set by F6-00 upon a fault. 1: The drive performs flying start upon a fault for restart no matter the settings of F6-00.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-45	Source of exceptions that allow restart	0x822D	Refer to "Value"	1	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Value： 0： Whitelist 1： Blacklist							
	Description： This parameter sets the source of fault upon which the drive is allowed for restart. 0: White list. The drive is allowed for restart upon the faults set by H2-46 to H2-57. 1: Black list. The drive is allowed for restart upon faults not set by H2-46 to H2-57.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-46	Code of specified exception 1	0x822E	0~200	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Defines the master code of fault 1 corresponding to the exception that allows restart.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-47	Subcode of specified exception 1	0x822F	0~9	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Defines the sub-code of fault 1 corresponding to the exception that allows restart.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-48	Code of specified exception 2	0x8230	0~200	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description： Defines the master code of fault 2 corresponding to the exception that allows restart.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-49	Subcode of specified exception 2	0x8231	0~9	0	Unsigned 16 bit	Real time changes	General user	Effective in real time

	Description: Defines the sub-code of fault 2 corresponding to the exception that allows restart.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-50	Code of specified exception 3	0x8232	0~200	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the master code of fault 3 corresponding to the exception that allows restart.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-51	Subcode of specified exception 3	0x8233	0~9	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the sub-code of fault 3 corresponding to the exception that allows restart.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-52	Code of specified exception 4	0x8234	0~200	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the master code of fault 4 corresponding to the exception that allows restart.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-53	Subcode of specified exception 4	0x8235	0~9	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the sub-code of fault 4 corresponding to the exception that allows restart.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-54	Code of specified exception 5	0x8236	0~200	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the master code of fault 5 corresponding to the exception that allows restart.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-55	Subcode of specified exception 5	0x8237	0~9	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the sub-code of fault 5 corresponding to the exception that allows restart.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-56	Code of specified exception 6	0x8238	0~200	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the master code of fault 6 corresponding to the exception that allows restart.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H2-57	Subcode of specified exception 6	0x8239	0~9	0	Unsigned 16 bit	Real time changes	General user	Effective in real time
	Description: Defines the sub-code of fault 6 corresponding to the exception that allows restart.							

H3 Fault Information Accessible by Users

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-00	Code of active fault 1	0x8300	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the latest fault 1. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-01	Subcode of active fault 1	0x8301	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the latest fault 1. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-07	Code of active fault 2	0x8307	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the latest fault 2. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-08	Subcode of active fault 2	0x8308	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the latest fault 2. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-14	Code of active fault 3	0x830E	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the latest fault 3. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-15	Subcode of active fault 3	0x830F	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the latest fault 3. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-21	Code of active fault 4	0x8315	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the latest fault 4. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-22	Subcode of active fault 4	0x8316	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the latest fault 4. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-28	Code of active fault 5	0x831C	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the latest fault 5. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-29	Subcode of active fault 5	0x831D	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the latest fault 5. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-35	Code of active fault 6	0x8323	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description:							

	Records the master code of the latest fault 6. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-36	Subcode of active fault 6	0x8324	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the latest fault 6. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-42	Frequency upon the active fault	0x832A	-327.68Hz~ +327.67Hz	0.00Hz	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Records the operating frequency upon occurrence of the latest fault (U0-19).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-43	Current upon the active fault	0x832B	-327.68A~+ 327.67A	0.00A	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Records the output current upon occurrence of the latest fault (U0-04).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-44	Bus voltage upon the active fault	0x832C	0.0V~6553.5V	0.0V	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the bus voltage upon occurrence of the latest fault (U0-02).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-45	Input terminal state upon the active fault	0x832D	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the DI status upon occurrence of the latest fault (U0-07).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-46	Output terminal state upon the active fault	0x832E	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the DO state upon occurrence of the latest fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

H3-47	AC drive state upon the active fault	0x832F	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the AC drive status upon occurrence of the latest fault (L5-06).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-48	Power-on duration upon the active fault	0x8330	0min~65535min	0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records current power-on time upon occurrence of the latest fault (U0-25).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-49	Running duration upon the active fault	0x8331	0.0min~6553.5min	0.0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records current operating time upon occurrence of the latest fault (U0-26).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-50	Status word A upon the active fault	0x8332	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the status word A upon occurrence of the latest fault (L5-00).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-51	Status word B upon the active fault	0x8333	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the status word B upon occurrence of the latest fault (L5-01).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H3-52	Command word upon the active fault	0x8334	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the command word upon occurrence of the latest fault (L5-24).							

H4 Fault Information Accessible by Users

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-00	Code of the latest fault 1	0x8400	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the latest fault 1. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-01	Subcode of the latest fault 1	0x8401	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the latest fault 1. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-07	Code of the latest fault 2	0x8407	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the latest fault 2. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-08	Subcode of the latest fault 2	0x8408	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the latest fault 2. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-14	Code of the latest fault 3	0x840E	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the latest fault 3. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-15	Subcode of the latest fault 3	0x840F	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the latest fault 3. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-21	Code of the latest	0x8415	0~65535	0	Unsigned	Cannot be	General	Effective in

	fault 4				16 bit	changed	user	real time
	Description: Records the master code of the latest fault 4. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-22	Subcode of the latest fault 4	0x8416	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the latest fault 4. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-28	Code of the latest fault 5	0x841C	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the latest fault 5. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-29	Subcode of the latest fault 5	0x841D	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the latest fault 5. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-35	Code of the latest fault 6	0x8423	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the latest fault 6. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-36	Subcode of the latest fault 6	0x8424	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the latest fault 6. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-42	Frequency upon the latest fault	0x842A	-327.68Hz~ +327.67Hz	0.00Hz	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Records the operating frequency upon occurrence of the latest fault (U0-19).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

H4-43	Current upon the latest fault	0x842B	-327.68A~+ 327.67A	0.00A	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Records the output current upon occurrence of the latest fault (U0-04).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-44	Bus voltage upon the latest fault	0x842C	0.0V~6553.5V	0.0V	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the bus voltage upon occurrence of the latest fault (U0-02).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-45	Input terminal state upon the latest fault	0x842D	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the DI status upon occurrence of the latest fault (U0-07).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-46	Output terminal state upon the latest fault	0x842E	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the DO state upon occurrence of the latest fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-47	AC drive state upon the latest fault	0x842F	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the AC drive status upon occurrence of the latest fault (L5-06).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-48	Power-on duration upon the latest fault	0x8430	0min~65535min	0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records current power-on time upon occurrence of the latest fault (U0-25).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-49	Running duration	0x8431	0.0min~6553.5min	0.0min	Unsigned	Cannot be	General	Effective in

	upon the latest fault				16 bit	changed	user	real time
	Description: Records current operating time upon occurrence of the latest fault (U0-26).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-50	Status word A upon the latest fault	0x8432	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the status word A upon occurrence of the latest fault (L5-00).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-51	Status word B upon the latest fault	0x8433	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the status word B upon occurrence of the latest fault (L5-01).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H4-52	Command word upon the latest fault	0x8434	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the command word upon occurrence of the latest fault (L5-24).							

H5 Fault Information Accessible by Users

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-00	Code of the second latest fault 1	0x8500	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 2nd latest fault 1. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-01	Subcode of the second latest fault 1	0x8501	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description:							

	Records the sub-code of the 2nd latest fault 1. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-07	Code of the second latest fault 2	0x8507	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 2nd latest fault 2. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-08	Subcode of the second latest fault 2	0x8508	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 2nd latest fault 2. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-14	Code of the second latest fault 3	0x850E	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 2nd latest fault 3. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-15	Subcode of the second latest fault 3	0x850F	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 2nd latest fault 3. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-21	Code of the second latest fault 4	0x8515	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 2nd latest fault 4. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-22	Subcode of the second latest fault 4	0x8516	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 2nd latest fault 4. For example, E015.1 is displayed as 1.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
H5-28	Code of the second latest fault 5	0x851C	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 2nd latest fault 5. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-29	Subcode of the second latest fault 5	0x851D	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 2nd latest fault 5. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-35	Code of the second latest fault 6	0x8523	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 2nd latest fault 6. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-36	Subcode of the second latest fault 6	0x8524	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 2nd latest fault 6. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-42	Frequency upon the second latest fault	0x852A	-327.68Hz~ +327.67Hz	0.00Hz	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Records the operating frequency upon occurrence of the 2nd latest fault (U0-19).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-43	Current upon the second latest fault	0x852B	-327.68A~+ 327.67A	0.00A	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Records the output current upon occurrence of the 2nd latest fault (U0-04).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-44	Bus voltage upon	0x852C	0.0V~6553.5V	0.0V	Unsigned	Cannot be	General	Effective in

	the second latest fault				16 bit	changed	user	real time
	Description: Records the bus voltage upon occurrence of the 2nd latest fault (U0-02).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-45	Input terminal state upon the second latest fault	0x852D	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the DI status upon occurrence of the 2nd latest fault (U0-07).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-46	Output terminal state upon the second latest fault	0x852E	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the DO state upon occurrence of the 2nd latest fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-47	AC drive state upon the second latest fault	0x852F	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the AC drive status upon occurrence of the 2nd latest fault (L5-06).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-48	Power-on duration upon the second latest fault	0x8530	0min~65535min	0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records current power-on time upon occurrence of the 2nd latest fault (U0-25).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-49	Running duration upon the second latest fault	0x8531	0.0min~6553.5min	0.0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records current operating time upon occurrence of the 2nd latest fault (U0-26).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

H5-50	Status word A upon the second latest fault	0x8532	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the status word A upon occurrence of the 2nd latest fault (L5-00).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-51	Status word B upon the second latest fault	0x8533	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the status word B upon occurrence of the 2nd latest fault (L5-01).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H5-52	Command word upon the second latest fault	0x8534	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the command word upon occurrence of the 2nd latest fault (L5-24).							

H6 Fault Information Accessible by Users

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-00	Code of the third latest fault 1	0x8600	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 3rd latest fault 1. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-01	Subcode of the third latest fault 1	0x8601	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 3rd latest fault 1. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-07	Code of the third latest fault 2	0x8607	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 3rd latest fault 2. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-08	Subcode of the third latest fault 2	0x8608	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 3rd latest fault 2. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-14	Code of the third latest fault 3	0x860E	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 3rd latest fault 3. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-15	Subcode of the third latest fault 3	0x860F	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 3rd latest fault 3. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-21	Code of the third latest fault 4	0x8615	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 3rd latest fault 4. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-22	Subcode of the third latest fault 4	0x8616	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 3rd latest fault 4. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-28	Code of the third latest fault 5	0x861C	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 3rd latest fault 5. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-29	Subcode of the third latest fault 5	0x861D	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description:							

	Records the sub-code of the 3rd latest fault 5. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-35	Code of the third latest fault 6	0x8623	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 3rd latest fault 6. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-36	Subcode of the third latest fault 6	0x8624	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 3rd latest fault 6. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-42	Frequency upon the third latest fault	0x862A	-327.68Hz~ +327.67Hz	0.00Hz	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Records the operating frequency upon occurrence of the 3rd latest fault (U0-19).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-43	Current upon the third latest fault	0x862B	-327.68A~+ 327.67A	0.00A	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Records the output current upon occurrence of the 3rd latest fault (U0-04).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-44	Bus voltage upon the third latest fault	0x862C	0.0V~6553.5V	0.0V	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the bus voltage upon occurrence of the 3rd latest fault (U0-02).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-45	Input terminal state upon the third latest fault	0x862D	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the DI status upon occurrence of the 3rd latest fault (U0-07).							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
H6-46	Output terminal state upon the third latest fault	0x862E	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the DO state upon occurrence of the 3rd latest fault.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-47	AC drive state upon the third latest fault	0x862F	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the AC drive status upon occurrence of the 3rd latest fault (L5-06).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-48	Power-on duration upon the third latest fault	0x8630	0min~65535min	0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records current power-on time upon occurrence of the 3rd latest fault (U0-25).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-49	Running duration upon the third latest fault	0x8631	0.0min~6553.5min	0.0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records current operating time upon occurrence of the 3rd latest fault (U0-26).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-50	Status word A upon the third latest fault	0x8632	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the status word A upon occurrence of the 3rd latest fault (L5-00).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-51	Status word B upon the third latest fault	0x8633	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the status word B upon occurrence of the 3rd latest fault (L5-01).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H6-52	Command word upon the third latest fault	0x8634	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the command word upon occurrence of the 3rd latest fault (L5-24).							

H7 Fault Information Accessible by Users

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-00	Code of the fourth latest fault 1	0x8700	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 4th latest fault 1. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-01	Subcode of the fourth latest fault 1	0x8701	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 4th latest fault 1. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-07	Code of the fourth latest fault 2	0x8707	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 4th latest fault 2. For example, E015.1 is displayed as 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-08	Subcode of the fourth latest fault 2	0x8708	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 4th latest fault 2. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-14	Code of the third latest fault 3	0x870E	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 4th latest fault 3. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-15	Subcode of the third latest fault 3	0x870F	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 4th latest fault 3. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-21	Code of the fourth latest fault 4	0x8715	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 4th latest fault 4. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-22	Subcode of the fourth latest fault 4	0x8716	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 4th latest fault 4. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-28	Code of the fourth latest fault 5	0x871C	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 4th latest fault 5. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-29	Subcode of the fourth latest fault 5	0x871D	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 4th latest fault 5. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-35	Code of the fourth latest fault 6	0x8723	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 4th latest fault 6. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-36	Subcode of the fourth latest fault 6	0x8724	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description:							

	Records the sub-code of the 4th latest fault 6. For example, E015.1 is displayed as 1.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-42	Frequency upon the fourth latest fault	0x872A	-327.68Hz~ +327.67Hz	0.00Hz	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Records the operating frequency upon occurrence of the 4th latest fault (U0-19).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-43	Current upon the fourth latest fault	0x872B	-327.68A~+ 327.67A	0.00A	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Records the output current upon occurrence of the 4th latest fault (U0-04).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-44	Bus voltage upon the fourth latest fault	0x872C	0.0V~6553.5V	0.0V	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the bus voltage upon occurrence of the 4th latest fault (U0-02).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-45	Input terminal state upon the fourth latest fault	0x872D	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the DI status upon occurrence of the 4th latest fault (U0-07).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-46	Output terminal state upon the fourth latest fault	0x872E	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the DO state upon occurrence of the 4th latest fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-47	AC drive state upon the fourth latest fault	0x872F	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description:							

	Records the AC drive status upon occurrence of the 4th latest fault (L5-06).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-48	Power-on duration upon the fourth latest fault	0x8730	0min~65535min	0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records current power-on time upon occurrence of the 4th latest fault (U0-25).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-49	Running duration upon the fourth latest fault	0x8731	0.0min~6553.5min	0.0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records current operating time upon occurrence of the 4th latest fault (U0-26).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-50	Status word A upon the fourth latest fault	0x8732	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the status word A upon occurrence of the 4th latest fault (L5-00).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-51	Status word B upon the fourth latest fault	0x8733	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the status word B upon occurrence of the 4th latest fault (L5-01).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H7-52	Command word upon the fourth latest fault	0x8734	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the command word upon occurrence of the 4th latest fault (L5-24).							

H8 Fault Information Accessible by Users

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
H8-00	Code of the fifth latest fault 1	0x8800	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 5th latest fault 1. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-01	Subcode of the fifth latest fault 1	0x8801	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 5th latest fault 1. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-07	Code of the fifth latest fault 2	0x8807	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 5th latest fault 2. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-08	Subcode of the fifth latest fault 2	0x8808	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 5th latest fault 2. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-14	Code of the fifth latest fault 3	0x880E	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 5th latest fault 3. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-15	Subcode of the fifth latest fault 3	0x880F	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 5th latest fault 3. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-21	Code of the fifth latest fault 4	0x8815	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 5th latest fault 4. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-22	Subcode of the fifth latest fault 4	0x8816	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 5th latest fault 4. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-28	Code of the fifth latest fault 5	0x881C	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 5th latest fault 5. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-29	Subcode of the fifth latest fault 5	0x881D	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 5th latest fault 5. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-35	Code of the fifth latest fault 6	0x8823	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the master code of the 5th latest fault 6. For example, E015.1 is displayed as 15.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-36	Subcode of the fifth latest fault 6	0x8824	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the sub-code of the 5th latest fault 6. For example, E015.1 is displayed as 1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-42	Frequency upon the fifth latest fault	0x882A	-327.68Hz~ +327.67Hz	0.00Hz	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Records the operating frequency upon occurrence of the 5th latest fault (U0-19).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-43	Current upon the fifth latest fault	0x882B	-327.68A~+ 327.67A	0.00A	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description:							

	Records the output current upon occurrence of the 5th latest fault (U0-04).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-44	Bus voltage upon the fifth latest fault	0x882C	0.0V~6553.5V	0.0V	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the bus voltage upon occurrence of the 5th latest fault (U0-02).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-45	Input terminal state upon the fifth latest fault	0x882D	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the DI status upon occurrence of the 5th latest fault (U0-07).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-46	Output terminal state upon the fifth latest fault	0x882E	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the DO state upon occurrence of the 5th latest fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-47	AC drive state upon the fifth latest fault	0x882F	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the AC drive status upon occurrence of the 5th latest fault (L5-06).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-48	Power-on duration upon the fifth latest fault	0x8830	0min~65535min	0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records current power-on time upon occurrence of the 5th latest fault (U0-25).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-49	Running duration upon the fifth latest fault	0x8831	0.0min~6553.5min	0.0min	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description:							

	Records current operating time upon occurrence of the 5th latest fault (U0-26).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-50	Status word A upon the fifth latest fault	0x8832	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the status word A upon occurrence of the 5th latest fault (L5-00).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-51	Status word B upon the fifth latest fault	0x8833	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the status word B upon occurrence of the 5th latest fault (L5-01).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
H8-52	Command word upon the fifth latest fault	0x8834	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Records the command word upon occurrence of the 5th latest fault (L5-24).							

U0 Monitoring Parameters

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-00	Running frequency	0x7000	0.00Hz~655.35Hz	0.00Hz	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: This parameter indicates the absolute value of the running frequency of the AC drive.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-01	Frequency reference	0x7001	0.00Hz~655.35Hz	0.00Hz	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: This parameter indicates the absolute value of the frequency reference of the AC drive.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
U0-02	Bus voltage	0x7002	0.0V~6553.5V	0.0V	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the bus voltage of the AC drive.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-03	Output voltage (V)	0x7003	0V~65535V	0V	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the output voltage of the drive during operation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-04	Output current	0x7004	0.00A~655.35A	0.00A	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the output current of the drive during operation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-05	Output power	0x7005	-3276.8kW~ +3276.7kW	0.0kW	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the output power of the drive during operation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-06	Output torque	0x7006	-3276.8%~+ 3276.7%	0.0%	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the output torque of the drive during operation. This percentage takes the rated motor torque as the basis.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-07	DI state	0x7007	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the input state of each DI terminal. It is displayed in hexadecimal. After converted to binary, each bit represents the state of each DI terminal. The bit values correspond to the following states:							

	1: DI terminal active 0: DI terminal inactive The functions of the bits are as follows: bit0: DI1 bit1: DI2 bit2: DI3 bit3: DI4 bit4: DI5 bit5: DI6 bit6: DI7 bit7: DI8 bit8: DI9 bit9: DI10 bit10: DI11 bit11: DI12 bit12: DI13 bit13: DI14 bit14: DI15 bit15: Reserved

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-08	DO state	0x7008	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the output state of each DO terminal. It is displayed in hexadecimal. After converted to binary, each bit represents the state of each DO terminal. The bit values correspond to the following states: 1: DO terminal active 0: DO terminal inactive The functions of the bits are as follows: Bit0: FMR bit1: DO3 (built-in control board relay) bit2: DO4 (MD38IO expansion board relay) bit3: DO1 (built-in control board) bit4: DO2 (MD38IO expansion board) bit5: VDO1 bit6: VDO2 bit7: VDO3 bit8: VDO4 bit9: VDO5 bit10 to bit15: Reserved							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-09	AI1 voltage	0x7009	-10.57V~+10.57V	0.00V	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: Displays AI1 voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-10	AI2 voltage	0x700A	-10.57V~+10.57V	0.00V	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: AI2 voltage display Note: AI2 supports current accuracy ranging from 0 mA to 20 mA when the current signal is input. When the impedance is selected to be 500 Ω, the corresponding voltage display range of U0-10 is 0 V to 10 V. When the impedance is set to 250 Ω, the voltage range of U0-10 is 0 V to 5 V.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-11	AI3 voltage	0x700B	-10.57V~+10.57V	0.00V	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: Displays AI3 voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-12	counting value	0x700C	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the counting value in the counting function							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-13	Length value	0x700D	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the length value in the fixed-length function							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-14	Load speed	0x700E	0~65535	0	Unsigned 16 bit	Cannot be	Patrol user	Effective in real

						changed		time
	Description: Displays the load target speed, which is affected by F7-06 (U0-14 = U0-14×F7-06).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-15	PID reference	0x700F	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: PID reference = PID reference (percentage) x FA-04 (PID reference feedback range)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-16	PID feedback	0x7010	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: PID feedback = PID feedback (percentage) x FA-04 (PID reference feedback range)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-17	PLC stage	0x7011	0~15	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays current simple PLC stage, which supports 16 speeds. Note: The PLC supports a total of 16 speeds from speed 0 to speed 15.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-18	Pulse input frequency	0x7012	0.00kHz~655.35kHz	0.00kHz	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the high-speed pulse sampling frequency of DI5.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-19	Feedback speed	0x7013	-327.68Hz~ +327.67Hz	0.00Hz	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: displays the feedback speed (Hz).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

U0-20	Remaining running duration	0x7014	0.0min~6553.5min	0.0min	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: This parameter indicates remaining running time during operation.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-21	AI1 voltage before correction	0x7015	-32.768V~+ 32.767V	0.000V	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the actual value of analog input sampling voltage/current. The voltage/current used has been corrected linearly to reduce the deviation between the sampling voltage/current and the actual input voltage/current. You can check U0-09 for the corrected voltage/current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-22	AI2 voltage before correction	0x7016	-32.768V~+ 32.767V	0.000V	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the actual value of analog input sampling voltage/current. The voltage/current used has been corrected linearly to reduce the deviation between the sampling voltage/current and the actual input voltage/current. You can check U0-10 for the corrected voltage/current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-23	AI3 voltage before correction	0x7017	-32.768V~+ 32.767V	0.000V	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the actual value of analog input sampling voltage/current. The voltage/current used has been corrected linearly to reduce the deviation between the sampling voltage/current and the actual input voltage/current. You can check U0-11 for the corrected voltage/current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-24	Motor speed	0x7018	0rpm~65535rpm	0rpm	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the motor feedback speed (RPM).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-25	Current power-on duration	0x7019	0min~65535min	0min	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-26	Current running duration	0x701A	0.0min~6553.5min	0.0min	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-27	Pulse input frequency	0x701B	0Hz~65535Hz	0Hz	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: This parameter indicates the DI5 high-speed pulse sampling frequency. It is the same as U0-18, except for difference in units.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-28	Communication setpoint	0x701C	-100.00%~+100.00%	0.00%	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: Displays data written through the communication address 0x1000. The setpoint of address 0x1000 determines the base of this percentage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-29	Encoder feedback speed	0x701D	-599.00Hz~+599.00Hz	0.00Hz	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: It displays the motor running frequency (Hz) measured by the encoder.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-30	Main frequency X	0x701E	-599.00Hz~+599.00Hz	0.00Hz	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the main frequency X (Hz).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-31	Auxiliary frequency Y	0x701F	-599.00Hz~+599.00Hz	0.00Hz	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description:							

	Displays the auxiliary frequency Y (Hz).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-32	Any memory address	0x7020	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-33	Synchronous motor rotor position	0x7021	0.0°~360.0°	0.0°	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-34	AI3 temperature mode - motor temperature	0x7022	-50°C~+300°C	0°C	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: This parameter indicates the motor temperature sampled through AI3. For the motor temperature detection, see F9-56 (Type of motor temperature sensor).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-35	Target torque	0x7023	-600.0%~+600.0%	0.0%	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: This parameter indicates the current torque upper limit reference, which is a percentage of the rated motor torque.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-36	Resolver position	0x7024	0~360	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-37	Power factor angle	0x7025	-3276.8°~+3276.7°	0.0°	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: This parameter indicates the current power factor angle.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-38	ABZ position	0x7026	0~360	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: This parameter indicates the number of phase-A and phase-B pulses of the ABZ encoder. This value is four times the number of pulses that encoder runs. For example, if the display is 4000, actual number of pulses that encoder runs is 4000/4 = 1000. The value increases when encoder rotates in forward direction and decreases when encoder rotates in reverse direction. After increasing to 65535, the value will be counted and increased from 0 again. After decreasing to 0, the value be							

	counted and decreased from 65535 again. You can check whether installation of encoder is normal by viewing U0-38.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-39	Target voltage upon V/f separation	0x7027	0V~F1-02	0V	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays target output voltage in V/f separation status.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-40	Output voltage upon V/f separation	0x7028	0V~F1-02	0V	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the actual output voltage in the V/f separation state.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-45	Fault subcode	0x702D	0~9	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-46	Limit code	0x702E	0.0~6553.5	0.0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-47	Encoder position feedback (high 16 bits)	0x702F	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-48	Encoder position feedback (low 16 bits)	0x7030	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-49	Alarm code	0x7031	0.0~6553.5	0.0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-58	Motor running revolution count	0x703A	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: This parameter indicates the phase-Z counting of the current ABZ or UVW encoder. The value increases or decreases by 1 every time encoder rotates one revolution forwardly or reversely. You can check whether installation of encoder is normal by viewing U0-58.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-59	Frequency reference	0x703B	-100.00%~+100.00%	0.00%	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the frequency reference. The parameter value takes the maximum frequency of the drive (F0-10) as the base.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-60	Running frequency	0x703C	-100.00%~+100.00%	0.00%	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the current operating frequency. The parameter value takes the maximum frequency of the drive (F0-10) as the base.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-61	AC drive state	0x703D	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: bit1, bit0: 0: Stop; 1: Run bit3, bit2: 0: Constant speed; 1: Accelerate; 2: Decelerate bit4: 0: Bus voltage OK; 1: Undervoltage							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-62	Code of active fault	0x703E	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the master code of current fault. For example, E015.1 (NO) of the external terminal is displayed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-63	Torque sent in point-to-point communication	0x703F	-327.68%~+327.67%	0.00%	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
U0-64	Number of slaves in master-slave control	0x7040	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-65	Torque Upper Limit	0x7041	-600.0%~+600.0%	0.0%	Signed 16 bits	Cannot be	Patrol user	Effective in real

						changed		time
	Description: Displays the torque upper limit. The parameter value takes the rated motor torque as the base.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-66	Model of communication expansion card	0x7042	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-67	Indicates the communication extension card software version.	0x7043	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-68	AC drive state on PROFIBUS DP card	0x7044	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: bit0: 0: Stop; 1: Run bit1: 0: Forward;1: Reverse; bit2: Drive faulty or not, 0: No fault; 1: Fault existed bit3: Frequency reach preset value or not, 0: No;1: Yes; bit4: Communication OK or not,0: Yes; 1: No; bit5: Reserved; bit6: Reserved; bit7: Reserved; bit8~ bit15: Fault code (master code)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-69	Frequency read through communication expansion card/0.01 Hz	0x7045	-327.68Hz~ +327.67Hz	0.00Hz	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
U0-70	Speed read through communication expansion card/rpm	0x7046	-32768rpm~ +32767rpm	0rpm	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
U0-71	Communication card-specific current	0x7047	0.0A~6553.5A	0.0A	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the output current of communication card.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

U0-73	Motor SN	0x7049	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-76	Low-order bits of accumulative power consumption	0x704C	0.0kWh~6553.5kWh	0.0kWh	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays low bits of accumulative power consumption. Calculation formula: Total power consumption = U0-77 x 10000 + U0-76							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-77	High-order bits of accumulative power consumption	0x704D	0kWh~65535kWh	0kWh	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays high bits of accumulative power consumption. Calculation formula: Total power consumption = U0-77 x 10000 + U0-76							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-78	Linear speed	0x704E	0m/min~65535m/min	0m/min	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the linear speed of the drive during operation.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-80	EtherCAT slave name	0x7050	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-81	EtherCAT slave alias	0x7051	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-83	EtherCAT XML file version	0x7053	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-84	EtherCAT synchronization loss count	0x7054	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-85	Maximum errors and invalid frames of EtherCAT port 0 per	0x7055	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time

	unit time							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-86	Maximum errors and invalid frames of EtherCAT port 1 per unit time	0x7056	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-87	Maximum forwarding errors of EtherCAT port per unit time	0x7057	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-88	Maximum error count of EtherCAT data frame processing unit per unit time	0x7058	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-89	Maximum link loss of EtherCAT port per unit time	0x7059	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-90	AI2 temperature mode - motor temperature value	0x705A	-50°C~+300°C	0°C	Signed 16 bits	Cannot be changed	Patrol user	Effective in real time
	Description: This parameter indicates the motor temperature sampled through AI2. For the motor temperature detection, see F9-56 (Type of motor temperature sensor).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-91	AC drive running frequency (unsigned)	0x705B	0.00Hz~655.35Hz	0.00Hz	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-92	AI2 temperature mode - motor temperature value (unit: 0.1)	0x705C	-50.0°C~+30 0.0°C	0.0°C	Signed 16 bits	Cannot be changed	General user	Effective in real time
	Description: Indicates the motor temperature sampled through AI2. For motor temperature detection, see F9-56 (Type of motor temperature sensor).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-95	STO initialization flag	0x705F	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time

U0-96	STO status word monitoring	0x7060	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Description: Displays the monitored STO status word. Bit 0: STO1 disconnection flag 1: STO1 disconnected; 0: STO1 connected Bit 1: STO2 disconnection flag 1: STO2 disconnected; 0: STO2 connected Bit 2: DO output selection (valid when DO is assigned with function 42) 1: DO outputted; 0: DO not outputted Bit3: STO status flag (if active, the panel displays the STO status). 1: STO activated; 0: STO deactivated							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U0-97	STO model	0x7061	0x0~0xFFFF	0x0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-98	STO 1.2V AD sampling value	0x7062	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
U0-99	STO 5V AD sampling value	0x7063	0~65535	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time

U2 System Information

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U2-00	Current motor parameter group	0x7200	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Displays the motor 1/2/3/4.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U2-05	Current multi-speed reference	0x7205	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
U2-06	Current multi-speed reference effective value	0x7206	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
	Description: Displays the frequency set in the multi-speed mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

U2-67	Current state of brake control	0x7243	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Patrol user	Effective in real time
	Value: 0: Initializing 1: Inhibited 2: Closing 3: Closed 4: Waiting for switch-on 5: Switching on 6: Switched on 7: Waiting for switch-off							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U2-68	Brake module control word	0x7244	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
U2-69	Status word of brake module	0x7245	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
U2-70	Status word for brake module ON uncompleted	0x7246	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
U2-71	Status word for brake module OFF uncompleted	0x7247	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time
U2-72	Starting frequency enable state of brake module	0x7248	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
U2-73	Starting torque enable state of brake module	0x7249	0~65535	0	Unsigned 16 bit	Cannot be changed	General user	Effective in real time

L0 Bit connector 1

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-10	AI1AsDI final output state	0x900A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: AI1 used as the final processing output state of DI sampling port							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-11	AI2AsDI final output	0x900B	0~1	0	Unsigned 16	Cannot be	Expert user	Effective in

	state				bit	changed		real time
	Description: AI1 used as the final processing output state of DI sampling port							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-12	AI3AsDI final output state	0x900C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: AI1 used as the final processing output state of DI sampling port							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-13	AI1AsDI inversion state	0x900D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: AI1 used as inverted final processing output state of DI sampling port							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-14	AI2AsDI inversion state	0x900E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: AI1 used as inverted final processing output state of DI sampling port							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-15	AI3AsDI inversion state	0x900F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: AI1 used as inverted final processing output state of DI sampling port							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-32	DI1 final output state	0x9020	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI1 level state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-33	DI2 final output state	0x9021	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI2 level state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

L0-34	DI3 final output state	0x9022	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI3 level state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-35	DI4 final output state	0x9023	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI4 level state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-36	DI5 final output state	0x9024	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI5 level state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-37	DI6 final output state	0x9025	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI6 level state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-38	DI7 final output state	0x9026	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI7 level state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-39	DI8 final output state	0x9027	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI8 level state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-40	DI9 final output state	0x9028	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI9 level state after processing is done							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
L0-41	DI10 final output state	0x9029	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI10 level state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-42	VDI1 final output state	0x902A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDI1 level state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-43	VDI2 final output state	0x902B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDI2 level state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-44	VDI3 final output state	0x902C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDI3 level state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-45	VDI4 final output state	0x902D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDI4 level state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-46	VDI5 final output state	0x902E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDI5 level state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-47	VDI6 final output state	0x902F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDI6 level state after processing is done							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-48	DI1 inversion state	0x9030	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI1 output state inverted after processing is done							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-49	DI2 inversion state	0x9031	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI2 output state inverted after processing is done							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-50	DI3 inversion state	0x9032	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI3 output state inverted after processing is done							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-51	DI4 inversion state	0x9033	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI4 output state inverted after processing is done							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-52	DI5 inversion state	0x9034	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI5 output state inverted after processing is done							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-53	DI6 inversion state	0x9035	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI6 output state inverted after processing is done							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-54	DI7 inversion state	0x9036	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description:							

	DI7 output state inverted after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-55	DI8 inversion state	0x9037	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI8 output state inverted after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-56	DI9 inversion state	0x9038	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI9 output state inverted after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-57	DI10 inversion state	0x9039	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DI10 output state inverted after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-58	VDI1 inversion state	0x903A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDI1 output state inverted after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-59	VDI2 inversion state	0x903B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDI2 output state inverted after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-60	VDI3 inversion state	0x903C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDI3 output state inverted after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-61	VDI4 inversion state	0x903D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

	Description: VDI4 output state inverted after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-62	VDI5 inversion state	0x903E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDI5 output state inverted after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-63	VDI6 inversion state	0x903F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDI6 output state inverted after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-80	Final output state of RELAY1 (DO3)	0x9050	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Output state of relay DO3 after done processing							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-81	FMR final output state	0x9051	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Output state of high-speed output port after processing is done in the digital mode							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-82	DO1 final output state	0x9052	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: DO1 output state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-83	Final output state of RELAY2 (DO4)	0x9053	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Relay DO4 output state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-84	DO2 final output	0x9054	0~1	0	Unsigned 16	Cannot be	Expert user	Effective in

	state				bit	changed		real time
	Description: DO2 output state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-85	VDO1 final output state	0x9055	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDO1 output state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-86	VDO2 final output state	0x9056	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDO2 output state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-87	VDO3 final output state	0x9057	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDO3 output state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-88	VDO4 final output state	0x9058	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDO4 output state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-89	VDO5 final output state	0x9059	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDO5 output state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-90	VDO6 final output state	0x905A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDO6 output state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

L0-91	VDO7 final output state	0x905B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDO7 output state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-92	VDO8 final output state	0x905C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDO8 output state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-93	VDO9 final output state	0x905D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDO9 output state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-94	VDO10 final output state	0x905E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDO10 output state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-95	VDO11 final output state	0x905F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: VDO11 output state after processing is done							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-96	AI1 input overlimit	0x9060	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: State of AI1 input voltage higher than AI limit range							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-97	AI2 input overlimit	0x9061	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: State of AI2 input voltage higher than AI limit range							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
L0-98	AI3 input overlimit	0x9062	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: State of AI3 input voltage higher than AI limit range							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L0-99	HDI input wire breakage	0x9063	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: State of HDI input pulse higher than HDI limit range							

L1 bit connector 2

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-00	Reference counting value reach	0x9100	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: State of accumulative counting value reaching the set value							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-01	Designated counting value reach	0x9101	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: State of accumulative counting value reaching the designated value							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-02	Length comparison value reach	0x9102	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: State of accumulative length value reaching the designated comparison value							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-03	Comparison result of DIO edge counting module 1	0x9103	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: State of the 1st group of comparison values in DIO counting function							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

L1-04	Comparison result of DIO edge counting module 2	0x9104	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: State of the 2nd group of comparison values in DIO counting function							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-05	Comparison result of DIO edge counting module 3	0x9105	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: State of the 3rd group of comparison values in DIO counting function							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-06	Comparison result of DIO edge counting module 4	0x9106	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: State of the 4th group of comparison values in DIO counting function							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-07	AI2 or AI3 temperature mode - motor temperature reach	0x9107	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: The motor sampling temperature reaches the threshold when AI2 or AI3 is in the temperature sampling mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-08	AI2 or AI3 temperature mode - motor overtemperature	0x9108	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: The motor sampling temperature exceeds the fault threshold when AI2 or AI3 is in the temperature sampling mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-09	AI2 or AI3 temperature mode - motor overtemperature determine	0x9109	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: The motor sampling temperature reaches the pre-alarm threshold when AI2 or AI3 is in the temperature sampling mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-10	AI3 temperature mode - motor overtemperature	0x910A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

	Description: The motor is in overtemperature state when AI3 is in temperature sampling mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-11	IGBT temperature reach (flag)	0x910B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: The drive temperature reaches the threshold.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-12	Ready to switch on	0x910C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: The state machine is ready to be switched on. 0: Not ready to switch on 1: Ready to switch on							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-13	Ready to run	0x910D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: When the state machine enters the "Switch-on allowed" state, it is ready to run. 0: Not ready to run 1: Ready to run							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-14	Running	0x910E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: The state machine enters the "Operational" state, it can start operating. 0: Not in operation 1: In operation							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-15	Faulty	0x910F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Fault flag: 0-No fault, 1-Fault							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-16	OFF2 inactive	0x9110	0~1	0	Unsigned	Cannot be	Expert	Effective in

					16 bit	changed	user	real time
	Description: OFF2 stop flag: 0-Inactive, 1-Active							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-17	OFF3 inactive	0x9111	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: OFF3 stop flag: 0-Inactive, 1-Active							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-18	Switch-on blocking	0x9112	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: The switch-on is blocked when the state machine enters switch-off inhibition state: 0-Switch-on not blocked, 1-Switch-on blocked							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-19	Minor fault/alarm activated	0x9113	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Minor fault/alarm flag: 0-No minor fault/alarm, 1-With minor fault/alarm							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-20	Actual speed following speed reference	0x9114	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays whether deviation exists between the setpoint and the feedback. 0-Deviation exists in setting/feedback; 1-Setting/Feedback is within the range.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-21	Local or remote	0x9115	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Local 1: Remote							
	Description: Displays local control or remote control. 0 indicates local control and 1 indicates remote control.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-22	Target speed reach	0x9116	0~1	0	Unsigned	Cannot be	Expert	Effective in

					16 bit	changed	user	real time
	Description: Used as the flag indicating the target speed has been reached. 0-Speed reached; 1-Speed not reached							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-23	Torque limit reach	0x9117	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Torque\Current limit flag 0-Torque/Current limited; 1-Torque/Current not limited							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-24	Forward speed	0x9118	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the speed direction. 0-Reverse; 1-Forward							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-25	Reverse speed	0x9119	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the speed direction. 0-Forward; 1-Reverse							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-26	Motor running flag	0x911A	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Stop 1: Operational (pulsing)							
	Description: Displays the operating state of the motor: 0-Stop; 1-Operational (including decelerated operation).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-27	User setting 1	0x911B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Main status setting word 1 set by the user							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-28	Auto-inspection	0x911C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description:							

	Indicates the state machine enters auto-inspection state.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-29	Perform motor parameter auto-tuning.	0x911D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the motor parameter auto-tuning state (1: Motor parameter auto-tuning in progress).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-30	Minor fault (operation limited) activated	0x911E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates a minor fault has occurred.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-31	Error activation	0x911F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: This value will be set to 1 when fault, minor fault, or alarm is reported.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-32	Speed mode	0x9120	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates current operation mode is speed mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-33	Torque mode	0x9121	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the current operation mode is torque mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-35	RFG enable	0x9123	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: RFG is enabled when the state machine enters the operation state flag or during decelerate-to-stop. (0-RFG not enabled; 1-RFG enabled).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-36	RFG running	0x9124	0~1	0	Unsigned	Cannot be	Expert	Effective in

					16 bit	changed	user	real time
	Description: RFG is operating when the state machine enters the operation state flag (0-RFG stop; 1-RFG running).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-37	Stop upon fault	0x9125	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the stop-at-fault command is active.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-38	Normal running	0x9126	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates non-jog operation. (0-Jog; 1-Non-jog)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-39	Jogging	0x9127	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates jog. (0-Non-jog; 1-Jog)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-42	Terminal control flag	0x912A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the command source is terminal control. 1: Inactive; 1: Active							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-43	User setting 2	0x912B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Main status setting word 2 set by the user							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-44	Control channel	0x912C	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Control channel 1 1: Control channel 2							
	Description:							

	Indicates the control channel activated currently (0: Control channel 1; 1: Control channel 2).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-45	Reference channel	0x912D	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Reference channel 1 1: Reference channel 2							
	Description: Indicates the setpoint channel activated currently (0: Reference channel 1; 1- Reference channel 2).							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-60	Excessive speed deviation	0x913C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the motor speed deviation is too large.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-61	Overspeed	0x913D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the motor speed is too large.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-62	Target speed reach	0x913E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the target speed is reached.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-63	Speed comparison reach 0	0x913F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates comparison speed reach 0 flag.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-64	Speed comparison reach 1	0x9140	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates comparison speed reach 1 flag.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
L1-65	Motor speed positive	0x9141	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the motor operates forwardly.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-66	Motor speed negative	0x9142	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the motor operates reversely.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-76	bit0 of word-to-bit A	0x914C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit0 of word-to-bit module A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-77	bit1 of word-to-bit A	0x914D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit1 of word-to-bit module A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-78	bit2 of word-to-bit A	0x914E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit2 of word-to-bit module A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-79	bit3 of word-to-bit A	0x914F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit3 of word-to-bit module A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-80	bit4 of word-to-bit A	0x9150	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit4 of word-to-bit module A.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-81	bit5 of word-to-bit A	0x9151	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit5 of word-to-bit module A.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-82	bit6 of word-to-bit A	0x9152	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit6 of word-to-bit module A.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-83	bit7 of word-to-bit A	0x9153	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit7 of word-to-bit module A.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-84	bit8 of word-to-bit A	0x9154	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit8 of word-to-bit module A.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-85	bit9 of word-to-bit A	0x9155	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit9 of word-to-bit module A.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-86	bit10 of word-to-bit A	0x9156	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit10 of word-to-bit module A.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-87	bit11 of word-to-bit A	0x9157	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description:							

	Displays bit11 of word-to-bit module A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-88	bit12 of word-to-bit A	0x9158	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit12 of word-to-bit module A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-89	bit13 of word-to-bit A	0x9159	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit13 of word-to-bit module A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-90	bit14 of word-to-bit A	0x915A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit14 of word-to-bit module A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-91	bit15 of word-to-bit A	0x915B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit15 of word-to-bit module A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-92	bit0 of word-to-bit B	0x915C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit0 of word-to-bit module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-93	bit1 of word-to-bit B	0x915D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit1 of word-to-bit module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-94	bit2 of word-to-bit B	0x915E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

	Description: Displays bit2 of word-to-bit module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-95	bit3 of word-to-bit B	0x915F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit3 of word-to-bit module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-96	bit4 of word-to-bit B	0x9160	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit4 of word-to-bit module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-97	bit5 of word-to-bit B	0x9161	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit5 of word-to-bit module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-98	bit6 of word-to-bit B	0x9162	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit6 of word-to-bit module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L1-99	bit7 of word-to-bit B	0x9163	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit7 of word-to-bit module B.							

L2 bit connector 3

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-00	bit8 of word-to-bit B	0x9200	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description:							

	Displays bit8 of word-to-bit module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-01	bit9 of word-to-bit B	0x9201	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit9 of word-to-bit module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-02	bit10 of word-to-bit B	0x9202	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit10 of word-to-bit module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-03	bit11 of word-to-bit B	0x9203	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit11 of word-to-bit module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-04	bit12 of word-to-bit B	0x9204	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit12 of word-to-bit module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-05	bit13 of word-to-bit B	0x9205	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit13 of word-to-bit module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-06	bit14 of word-to-bit B	0x9206	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit14 of word-to-bit module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-07	bit15 of word-to-bit B	0x9207	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

	Description: Displays bit15 of word-to-bit module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-08	bit0 of word-to-bit C	0x9208	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit0 of word-to-bit module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-09	bit1 of word-to-bit C	0x9209	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit1 of word-to-bit module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-10	bit2 of word-to-bit C	0x920A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit2 of word-to-bit module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-11	bit3 of word-to-bit C	0x920B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit3 of word-to-bit module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-12	bit4 of word-to-bit C	0x920C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit4 of word-to-bit module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-13	bit5 of word-to-bit C	0x920D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit5 of word-to-bit module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-14	bit6 of word-	0x920E	0~1	0	Unsigned 16	Cannot be	Expert user	Effective in real

	to-bit C				bit	changed		time
	Description: Displays bit6 of word-to-bit module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-15	bit7 of word-to-bit C	0x920F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit7 of word-to-bit module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-16	bit8 of word-to-bit C	0x9210	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit8 of word-to-bit module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-17	bit9 of word-to-bit C	0x9211	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit9 of word-to-bit module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-18	bit10 of word-to-bit C	0x9212	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit10 of word-to-bit module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-19	bit11 of word-to-bit C	0x9213	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit11 of word-to-bit module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-20	bit12 of word-to-bit C	0x9214	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit12 of word-to-bit module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

L2-21	bit13 of word-to-bit C	0x9215	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit13 of word-to-bit module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-22	bit14 of word-to-bit C	0x9216	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit14 of word-to-bit module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-23	bit15 of word-to-bit C	0x9217	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit15 of word-to-bit module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-24	bit0 of word-to-bit D	0x9218	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit0 of word-to-bit module D.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-25	bit1 of word-to-bit D	0x9219	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit1 of word-to-bit module D.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-26	bit2 of word-to-bit D	0x921A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit2 of word-to-bit module D.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-27	bit3 of word-to-bit D	0x921B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit3 of word-to-bit module D.							
Param	Name	Communication	Range	Default	Data type	Change mode	User	Effective mode

		address					authority	
L2-28	bit4 of word-to-bit D	0x921C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit4 of word-to-bit module D.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-29	bit5 of word-to-bit D	0x921D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit5 of word-to-bit module D.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-30	bit6 of word-to-bit D	0x921E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit6 of word-to-bit module D.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-31	bit7 of word-to-bit D	0x921F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit7 of word-to-bit module D.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-32	bit8 of word-to-bit D	0x9220	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit8 of word-to-bit module D.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-33	bit9 of word-to-bit D	0x9221	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit9 of word-to-bit module D.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-34	bit10 of word-to-bit D	0x9222	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit10 of word-to-bit module D.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-35	bit11 of word-to-bit D	0x9223	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit11 of word-to-bit module D.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-36	bit12 of word-to-bit D	0x9224	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit12 of word-to-bit module D.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-37	bit13 of word-to-bit D	0x9225	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit13 of word-to-bit module D.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-38	bit14 of word-to-bit D	0x9226	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit14 of word-to-bit module D.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-39	bit15 of word-to-bit D	0x9227	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit15 of word-to-bit module D.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-40	bit0 of word-to-bit E	0x9228	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit0 of word-to-bit module E.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-41	bit1 of word-to-bit E	0x9229	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description:							

	Displays bit1 of word-to-bit module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-42	bit2 of word-to-bit E	0x922A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit2 of word-to-bit module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-43	bit3 of word-to-bit E	0x922B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit3 of word-to-bit module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-44	bit4 of word-to-bit E	0x922C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit4 of word-to-bit module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-45	bit5 of word-to-bit E	0x922D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit5 of word-to-bit module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-46	bit6 of word-to-bit E	0x922E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit6 of word-to-bit module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-47	bit7 of word-to-bit E	0x922F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit7 of word-to-bit module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-48	bit8 of word-to-bit E	0x9230	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

	Description: Displays bit8 of word-to-bit module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-49	bit9 of word-to-bit E	0x9231	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit9 of word-to-bit module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-50	bit10 of word-to-bit E	0x9232	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit10 of word-to-bit module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-51	bit11 of word-to-bit E	0x9233	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit11 of word-to-bit module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-52	bit12 of word-to-bit E	0x9234	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit12 of word-to-bit module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-53	bit13 of word-to-bit E	0x9235	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit13 of word-to-bit module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-54	bit14 of word-to-bit E	0x9236	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit14 of word-to-bit module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-55	bit15 of word-	0x9237	0~1	0	Unsigned 16	Cannot be	Expert user	Effective in real

	to-bit E				bit	changed		time
	Description: Displays bit15 of word-to-bit module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-56	bit0 of word-to-bit F	0x9238	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit0 of word-to-bit module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-57	bit1 of word-to-bit F	0x9239	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit1 of word-to-bit module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-58	bit2 of word-to-bit F	0x923A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit2 of word-to-bit module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-59	bit3 of word-to-bit F	0x923B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit3 of word-to-bit module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-60	bit4 of word-to-bit F	0x923C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit4 of word-to-bit module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-61	bit5 of word-to-bit F	0x923D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit5 of word-to-bit module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

L2-62	bit6 of word-to-bit F	0x923E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit6 of word-to-bit module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-63	bit7 of word-to-bit F	0x923F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit7 of word-to-bit module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-64	bit8 of word-to-bit F	0x9240	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit8 of word-to-bit module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-65	bit9 of word-to-bit F	0x9241	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit9 of word-to-bit module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-66	bit10 of word-to-bit F	0x9242	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit10 of word-to-bit module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-67	bit11 of word-to-bit F	0x9243	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit11 of word-to-bit module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-68	bit12 of word-to-bit F	0x9244	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit12 of word-to-bit module F.							
Param	Name	Communication	Range	Default	Data type	Change mode	User	Effective mode

		address					authority	
L2-69	bit13 of word-to-bit F	0x9245	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit13 of word-to-bit module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-70	bit14 of word-to-bit F	0x9246	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit14 of word-to-bit module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-71	bit15 of word-to-bit F	0x9247	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit15 of word-to-bit module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-72	bit0 of word-to-bit G	0x9248	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit0 of word-to-bit module G.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-73	bit1 of word-to-bit G	0x9249	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit1 of word-to-bit module G.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-74	bit2 of word-to-bit G	0x924A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit2 of word-to-bit module G.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-75	bit3 of word-to-bit G	0x924B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit3 of word-to-bit module G.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-76	bit4 of word-to-bit G	0x924C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit4 of word-to-bit module G.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-77	bit5 of word-to-bit G	0x924D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit5 of word-to-bit module G.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-78	bit6 of word-to-bit G	0x924E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit6 of word-to-bit module G.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-79	bit7 of word-to-bit G	0x924F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit7 of word-to-bit module G.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-80	bit8 of word-to-bit G	0x9250	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit8 of word-to-bit module G.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-81	bit9 of word-to-bit G	0x9251	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit9 of word-to-bit module G.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-82	bit10 of word-to-bit G	0x9252	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description:							

	Displays bit10 of word-to-bit module G.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-83	bit11 of word-to-bit G	0x9253	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit11 of word-to-bit module G.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-84	bit12 of word-to-bit G	0x9254	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit12 of word-to-bit module G.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-85	bit13 of word-to-bit G	0x9255	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit13 of word-to-bit module G.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-86	bit14 of word-to-bit G	0x9256	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit14 of word-to-bit module G.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-87	bit15 of word-to-bit G	0x9257	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit15 of word-to-bit module G.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-88	bit0 of word-to-bit H	0x9258	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit0 of word-to-bit module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-89	bit1 of word-to-bit H	0x9259	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

	Description: Displays bit1 of word-to-bit module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-90	bit2 of word-to-bit H	0x925A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit2 of word-to-bit module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-91	bit3 of word-to-bit H	0x925B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit3 of word-to-bit module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-92	bit4 of word-to-bit H	0x925C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit4 of word-to-bit module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-93	bit5 of word-to-bit H	0x925D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit5 of word-to-bit module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-94	bit6 of word-to-bit H	0x925E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit6 of word-to-bit module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-95	bit7 of word-to-bit H	0x925F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit7 of word-to-bit module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-96	bit8 of word-	0x9260	0~1	0	Unsigned 16	Cannot be	Expert user	Effective in real

	to-bit H				bit	changed		time
	Description: Displays bit8 of word-to-bit module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-97	bit9 of word-to-bit H	0x9261	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit9 of word-to-bit module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-98	bit10 of word-to-bit H	0x9262	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit10 of word-to-bit module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L2-99	bit11 of word-to-bit H	0x9263	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit11 of word-to-bit module H.							

L3 bit connector 4

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-00	bit12 of word-to-bit H	0x9300	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit12 of word-to-bit module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-01	bit13 of word-to-bit H	0x9301	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit13 of word-to-bit module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-02	bit14 of word-to-bit H	0x9302	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

	Description: Displays bit14 of word-to-bit module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-03	bit15 of word-to-bit H	0x9303	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit15 of word-to-bit module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-04	Output of binary selector module A	0x9304	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of binary selector module A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-05	Output of binary selector module B	0x9305	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of binary selector module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-06	Output of binary selector module C	0x9306	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of binary selector module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-07	Output of binary selector module D	0x9307	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of binary selector module D.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-08	Output of binary selector module E	0x9308	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of binary selector module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-09	Output of binary	0x9309	0~1	0	Unsigned	Cannot be	Expert user	Effective in

	selector module F				16 bit	changed		real time
	Description: Displays the output of binary selector module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-10	Output of binary selector module G	0x930A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of binary selector module G.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-11	Output of binary selector module H	0x930B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of binary selector module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-20	Output of logic delay module A	0x9314	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logical delay module A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-21	Output of logic delay module B	0x9315	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logical delay module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-22	Output of logic delay module C	0x9316	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logical delay module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-23	Output of logic delay module D	0x9317	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logical delay module D.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

L3-24	Output of logic delay module E	0x9318	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logical delay module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-25	Output of logic delay module F	0x9319	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logical delay module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-26	Output of logic delay module G	0x931A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logical delay module G.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-27	Output of logic delay module H	0x931B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logical delay module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-36	Output of logic AND-OR module A	0x9324	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic AND-OR module A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-37	Output of logic AND-OR module B	0x9325	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic AND-OR module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-38	Output of logic AND-OR module C	0x9326	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic AND-OR module C.							
Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
L3-39	Output of logic AND-OR module D	0x9327	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic AND-OR module D.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-40	Output of logic AND-OR module E	0x9328	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic AND-OR module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-41	Output of logic AND-OR module F	0x9329	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic AND-OR module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-42	Output of logic AND-OR module G	0x932A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic AND-OR module G.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-43	Output of logic AND-OR module H	0x932B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic AND-OR module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-44	Output of logic AND-OR module I	0x932C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic AND-OR module I.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-45	Output of logic AND-OR module J	0x932D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic AND-OR module J.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-46	Output of logic AND-OR module K	0x932E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic AND-OR module K.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-47	Output of logic AND-OR module L	0x932F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic AND-OR module L.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-52	Output of logic NOT module A	0x9334	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic NOT module A.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-53	Output of logic NOT module B	0x9335	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic NOT module B.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-54	Output of logic NOT module C	0x9336	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic NOT module C.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-55	Output of logic NOT module D	0x9337	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic NOT module D.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-56	Output of logic NOT module E	0x9338	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description:							

	Displays the output of logic NOT module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-57	Output of logic NOT module F	0x9339	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic NOT module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-58	Output of logic NOT module G	0x933A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic NOT module G.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-59	Output of logic NOT module H	0x933B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic NOT module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-60	Output of logic NOT module I	0x933C	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic NOT module I.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-61	Output of logic NOT module J	0x933D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic NOT module J.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-62	Output of logic NOT module K	0x933E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic NOT module K.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-63	Output of logic NOT module L	0x933F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

	Description: Displays the output of logic NOT module L.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-64	Output of logic NOT module M	0x9340	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic NOT module M.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-65	Output of logic NOT module N	0x9341	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic NOT module N.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-66	Output of logic NOT module O	0x9342	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic NOT module O.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-67	Output of logic NOT module P	0x9343	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic NOT module P.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-68	Output of logic XOR/XNOR module A	0x9344	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic XOR/XNOR module A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-69	Output of logic XOR/XNOR module B	0x9345	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic XOR/XNOR module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-70	Output of logic	0x9346	0~1	0	Unsigned	Cannot be	Expert user	Effective in

	XOR/XNOR module C				16 bit	changed		real time
	Description: Displays the output of logic XOR/XNOR module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-71	Output of logic XOR/XNOR module D	0x9347	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic XOR/XNOR module D.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-72	Output of logic XOR/XNOR module E	0x9348	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic XOR/XNOR module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-73	Output of logic XOR/XNOR module F	0x9349	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic XOR/XNOR module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-74	Output of logic XOR/XNOR module G	0x934A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic XOR/XNOR module G.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L3-75	Output of logic XOR/XNOR module H	0x934B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of logic XOR/XNOR module H.							

L4 Bit Connector 5

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-00	Output of float comparison module A	0x9400	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real

								time
	Description: Displays the output of float comparison module A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-01	Output of float comparison module B	0x9401	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of float comparison module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-02	Output of float comparison module C	0x9402	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of float comparison module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-03	Output of float comparison module D	0x9403	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of float comparison module D.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-04	Output of fixed-point comparison module E	0x9404	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of float comparison module E.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-05	Output of fixed-point comparison module F	0x9405	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of float comparison module F.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-06	Output of fixed-point	0x9406	0~1	0	Unsigned	Cannot be	Expert	Effective

	comparison module G				16 bit	changed	user	in real time
	Description: Displays the output of float comparison module G.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-07	Output of fixed-point comparison module H	0x9407	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the output of float comparison module H.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-16	Flag indicating whether input of float absolute value module A is negative	0x9410	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Not negative 1: Negative							
	Description: When the input of float absolute module A is negative, this connector displays 1. Otherwise, it displays 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-17	Flag indicating whether input of float absolute value module B is negative	0x9411	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Not negative 1: Negative							
	Description: When the input of float absolute module B is negative, this connector displays 1. Otherwise, it displays 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-18	Flag indicating whether input of float absolute value module C is negative	0x9412	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Not negative 1: Negative							
	Description: When the input of float absolute module C is negative, this connector displays 1. Otherwise, it displays 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-19	Flag indicating whether input of float absolute value module D is negative	0x9413	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Not negative 1: Negative							
	Description: When the input of float absolute module D is negative, this connector displays 1. Otherwise, it displays 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-20	Flag indicating whether input of float absolute value module E is negative	0x9414	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Not negative 1: Negative							
	Description: When the input of float absolute module E is negative, this connector displays 1. Otherwise, it displays 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-21	Flag indicating whether input of fixed-point absolute value module F is negative	0x9415	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Not negative 1: Negative							
	Description: When the input of float absolute module F is negative, this connector displays 1. Otherwise, it displays 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-22	Flag indicating whether input of fixed-point absolute value module G is negative	0x9416	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Not negative 1: Negative							
	Description: When the input of float absolute module G is negative, this connector displays 1. Otherwise, it displays 0.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
L4-23	Flag indicating whether input of fixed-point absolute value module H is negative	0x9417	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Not negative 1: Negative							
	Description: When the input of float absolute module H is negative, this connector displays 1. Otherwise, it displays 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-32	Flag indicating whether divisor of MULTIPLY/DIVIDE module A is 0	0x9420	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Not 0 1: 0							
	Description: When the divisor of MULTIPLY/DIVIDE module A is zero, the flag is displayed as 1, otherwise, it is displayed as 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-33	Flag indicating whether divisor of MULTIPLY/DIVIDE module B is 0	0x9421	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Not 0 1: 0							
	Description: When the divisor of MULTIPLY/DIVIDE module B is zero, the flag is displayed as 1, otherwise, it is displayed as 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-34	Flag indicating whether divisor of MULTIPLY/DIVIDE module C is 0	0x9422	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Not 0 1: 0							
	Description: When the divisor of MULTIPLY/DIVIDE module C is zero, the flag is displayed as 1, otherwise, it is displayed as 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

L4-35	Flag indicating whether divisor of MULTIPLY/DIVIDE module D is 0	0x9423	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Not 0 1: 0							
	Description: When the divisor of MULTIPLY/DIVIDE module D is zero, the flag is displayed as 1, otherwise, it is displayed as 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-36	Flag indicating whether divisor of MULTIPLY/DIVIDE module E is 0	0x9424	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Not 0 1: 0							
	Description: When the divisor of MULTIPLY/DIVIDE module E is zero, the flag is displayed as 1, otherwise, it is displayed as 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-37	Flag indicating whether divisor of MULTIPLY/DIVIDE module F is 0	0x9425	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Not 0 1: 0							
	Description: When the divisor of MULTIPLY/DIVIDE module F is zero, the flag is displayed as 1, otherwise, it is displayed as 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-38	Flag indicating whether divisor of MULTIPLY/DIVIDE module G is 0	0x9426	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Not 0 1: 0							
	Description: When the divisor of MULTIPLY/DIVIDE module G is zero, the flag is displayed as 1, otherwise, it is displayed as 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

L4-39	Flag indicating whether divisor of MULTIPLY/DIVIDE module H is 0	0x9427	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Not 0 1: 0							
	Description: When the divisor of MULTIPLY/DIVIDE module H is zero, the flag is displayed as 1, otherwise, it is displayed as 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-48	Lower limit flag of limit module A	0x9430	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: When the input of the limit module A is lower than the lower limit, the lower limit flag is displayed as 1. Otherwise, it is displayed as 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-49	Upper limit flag of limit module A	0x9431	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: When the input of the limit module A is higher than the upper limit, the upper limit flag is displayed as 1. Otherwise, it is displayed as 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-50	Lower limit flag of limit module B	0x9432	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: When the input of the limit module B is lower than the lower limit, the lower limit flag is displayed as 1. Otherwise, it is displayed as 0.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-51	Upper limit flag of limit module B	0x9433	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: When the input of the limit module B is higher than the upper limit, the upper limit flag is displayed as 1. Otherwise, it is displayed as 0.							

Param	Name	Communication	Range	Default	Data type	Change	User	Effective

		address				mode	authority	mode
L4-52	Lower limit flag of limit module C	0x9434	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: When the input of the limit module C is lower than the lower limit, the lower limit flag is displayed as 1. Otherwise, it is displayed as 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-53	Upper limit flag of limit module C	0x9435	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: When the input of the limit module C is higher than the upper limit, the upper limit flag is displayed as 1. Otherwise, it is displayed as 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-54	Lower limit flag of limit module D	0x9436	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: When the input of the limit module D is lower than the lower limit, the lower limit flag is displayed as 1. Otherwise, it is displayed as 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-55	Upper limit flag of limit module D	0x9437	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: When the input of the limit module D is higher than the upper limit, the upper limit flag is displayed as 1. Otherwise, it is displayed as 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-56	Lower limit flag of limit module E	0x9438	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: When the input of the limit module E is lower than the lower limit, the lower limit flag is displayed as 1. Otherwise, it is displayed as 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-57	Upper limit flag of limit	0x9439	0~1	0	Unsigned	Cannot be	Expert	Effective

	module E				16 bit	changed	user	in real time
	Description: When the input of the limit module E is higher than the upper limit, the upper limit flag is displayed as 1. Otherwise, it is displayed as 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-58	Lower limit flag of limit module F	0x943A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: When the input of the limit module F is lower than the lower limit, the lower limit flag is displayed as 1. Otherwise, it is displayed as 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-59	Upper limit flag of limit module F	0x943B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: When the input of the limit module F is higher than the upper limit, the upper limit flag is displayed as 1. Otherwise, it is displayed as 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-64	Hibernation enable flag	0x9440	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays whether hibernation is active.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-66	Starting frequency forced RFG	0x9442	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: When the starting frequency is not zero and the set frequency is higher than or equal to max (starting frequency, min. motor frequency), the max (starting frequency, min. motor frequency) is used. Within the hold time of the starting frequency, this connector outputs 1. Otherwise, it outputs 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-67	Stop at frequencies lower than lower limit/starting frequency	0x9443	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

	Description: Stop at frequencies lower than the lower limit: When operation mode for frequencies lower than the lower limit is set to 1 (Stop), this connector displays 1 when the set frequency is lower than the lower limit. Stop at frequencies lower than the starting frequency: When the starting frequency is not 0 and the set frequency is lower than max (starting frequency, min. motor frequency), this connector displays 1.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-68	Coast to stop at frequencies lower than lower limit	0x9444	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Coast to stop flag at frequencies lower than lower limit							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-69	Power dip ride-through deceleration and clear	0x9445	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: RGF target speed clear flag upon power dip ride-through							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-70	Decelerate to stop upon power dip ride-through	0x9446	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Decelerate to stop output flag upon power dip ride-through							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-71	Individual stop of simple PLC	0x9447	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Individual stop output flag of simple PLC							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-72	Power-on duration reach	0x9448	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Output flag for reaching accumulative power-on time threshold							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

L4-73	Running duration reach	0x9449	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Output flag for reaching accumulative operating time threshold							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-74	Timing duration reach	0x944A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Output flag for reaching timed operation deadline							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-75	Current running duration reach	0x944B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Output flag for reaching current operating time							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-76	Brake command output	0x944C	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Close 1: Release							
	Description: Brake command output signal (0: Brake closed; 1: Brake released)							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-77	Brake released	0x944D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: The brake has been fully released.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-78	Brake closed	0x944E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

	Description: Brake fully closed							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-80	Operating at zero speed (inactive at stop)	0x9450	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Output flag upon operating at zero speed							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-81	Operating at zero speed (active upon stop)	0x9451	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Zero speed flag during stop or operation							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-82	Frequency detection value 1	0x9452	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Frequency FDT1 valid flag							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-83	Frequency detection value 2	0x9453	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Frequency FDT2 valid flag							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-84	AI1 larger than AI2	0x9454	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Flag for AI1 input voltage higher than AI2 input voltage							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-85	Simple PLC cycle completed	0x9455	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real

								time
	Description: Simple PLC cycle completion flag							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-87	STO output	0x9457	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: STO status output flag							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-88	Current 1 reached	0x9458	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Flag for reaching output current 1							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-89	Current 2 reached	0x9459	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Flag for reaching output current 2							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-90	Zero current state	0x945A	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Zero current output flag							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-91	Output current limit exceeded	0x945B	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Flag for current output exceeding the setpoint and detection time							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-92	Motor overload determine	0x945C	0~1	0	Unsigned	Cannot be	Expert	Effective

					16 bit	changed	user	in real time
	Description: Motor overload pre-alarm output flag							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-93	AC drive overload determine	0x945D	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: AC drive overload pre-alarm output flag							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-94	Undervoltage	0x945E	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: AC drive undervoltage output flag							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L4-95	Load loss	0x945F	0~1	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: AC drive load loss output flag							

L5 Word Connector 1

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-00	System status word 1	0x9500	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: Bit: Name bit0: Ready to switch-on bit1: Ready to run bit2: Operating							

bit3	Fault
bit4	OFF2
bit5	OFF3
bit6	Switch-on blocked
bit7	Alarm/limit operation
bit8	No speed deviation
bit9	Local/Remote
bit10	Target speed reached
bit11	Torque limit
bit12	Positive speed
bit13	Negative speed
bit14	Operating (pulsing)
bit15	User setting state 0

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-01	System status word 2	0x9501	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

Value:

Bit	Name
bit 0	Auto-inspection
bit1	Parameter auto-tuning
bit2	Minor fault state
bit3	Alarm state
bit4	Speed mode
bit5	Torque mode
bit6	Position mode
bit7	RFG enable
bit8	RFG operation
bit9	Stop at fault
bit10	Normal operation
bit11	Jog
bit12	Decelerate to stop
bit13	Brake closed
bit14	Terminal control
bit15	User setting state 1

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-02	AC drive main status word	0x9502	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

Value:

Bit	Name
Bit0 to bit1	Operation state
bit2	Hardware information condition
bit3	Operation stop state
bit4	Forced output blockage upon fault
bit5	Bus undervoltage state
bit6 to bit15	Reserved

Description:

Bit0-bit1: Running state 0 - Initializing 1 - Sampling preparation 2 - Undervoltage state 3 - Preparation completed.

Bit2: Hardware information status 0 - Not ready 1 - Ready

Bit3: Stop state

Bit4: Forced output blockage upon fault

Bit5: Bus undervoltage state

Bit6 to bit15 (reserved)

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-03	AC drive auxiliary status word	0x9503	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-04	Main status word of motor	0x9504	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

Value:

Bit	Name
Bit0 to bit2	Operation mode 0-Stop 1-Normal operation 2-Special operation 3-Parameter auto-tuning 4-Automatic inspection
Bit4 to bit6	Control mode, 0-V/f; 1-FVC; 2-SVC
Bit7 to bit8	Control target 0-Speed control 1-Torque control

Bit9	Motor information state
Bit10	Motor operation allowed
Bit11	Operating in speed mode forcibly
Bit12	Decelerated operation forcibly
Bit14 to bit15	Reserved

Description:

Bit0 to bit2: Operation mode 0-Stop 1-Normal operation 2-Special operation 3-Parameter auto-tuning 4-Automatic inspection

Bit4 to bit6: Control mode, 0-V/f; 1-FVC; 2-SVC

Bit7 to bit8: Control target 0-Speed control 1-Torque control

Bit9: Motor information state

Bit10: Motor operation allowed

Bit11: Operating in speed mode forcibly

Bit12: Decelerated operation forcibly

Bit14 to bit15: Reserved

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-05	Auxiliary status word of motor	0x9505	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

Value:

Bit	Name
bit 0	Speed tracking in progress
bit1	Speed tracking done
bit2	Pre-excitation in progress
bit3	Pre-excitation done
bit4	DC braking in progress
bit5	DC braking done
bit7	IF control in progress
bit8	Short-connection braking in progress
bit9	Short-connection braking done
bit10	Initial magnetic pole position auto-tuning done
bit11	Parameter calculation done
bit12	Auto-tuning of quick encoder zero position angle
bit13	Synchronous motor speed tracking success flag
bit14	Pre-positioning done
bit15	Reserved

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-06	Current state of system state machine	0x9506	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

Value:

0: Initializing
1: Switch-on inhibited
2: Switch-on allowed
3: Operation allowed
4: Start
5: Operating
6: Stop
7: Automatic inspection
8: Motor parameter auto-tuning

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-07	System state machine switchover command	0x9507	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

Value:

Bit	Name
bit0	Start active
bit1	Stop active
bit2	Off2 stop active
bit3	Off3 stop active
bit4	Operation permission active (non-hibernation state)
bit5	Operation inhibition active
bit6	Stop fault active

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-08	System running state	0x9508	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

Description:

0: No special state
1: Waiting for offline auto-tuning
2: Waiting for offline auto-inspection
3: Forced DC braking

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

L5-09	Current stop mode	0x9509	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Value: 0: Coast to stop 1: Stop at maximum capability 2: Quick stop 3: Decelerate to stop							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-10	Decelerate to stop/DC braking	0x950A	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: 0: Decelerate to stop 1: Short-connection braking 2: DC braking							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-17	Bus voltage	0x9511	0.0V~6553.5V	0.0V	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the bus voltage.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-20	IGBT temperature	0x9514	-3276.8°C~+ 3276.7°C	0.0°C	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Heatsink module temperature							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-21	LED control word	0x9515	0~65535	0	Unsigned 16 bit	Cannot be	Expert user	Effective in real

						changed		time
	Description: LED operating panel control command word							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-22	IDS control word	0x9516	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Software tool control command word							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-23	SOP control word	0x9517	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: SOP operating panel control command word							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-24	Command channel system command	0x9518	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: System command word							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-25	LED command clear flag	0x9519	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: LED operating panel control command word clear flag							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-26	SOP command clear	0x951A	0~65535	0	Unsigned	Cannot	Expert	Effective

	flag				16 bit	be changed	user	in real time
	Description: SOP operating panel control command word clear flag							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-27	IDS command clear flag	0x951B	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Software tool control command word clear flag							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-28	Terminal module command	0x951C	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Terminal control module command word bit0: OFF1 bit1: OFF2 bit2: OFF3 bit3: Enable bit4: Reset bit5: JOG1 bit6: JOG2 bit7: Reverse							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-29	Input state of terminal module A	0x951D	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Input status word of terminal module A bit0: OFF1 bit1: Reverse bit2: Enable bit3: Reset							

	bit4: JOG1 bit5: JOG2 bit7: IN1 bit8: IN2 bit9: IN3

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-30	Input state of terminal module B	0x951E	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Input status word of terminal module B bit0: OFF1 bit1: Reverse bit2: Enable bit3: Reset bit4: JOG1 bit5: JOG2 bit7: IN1 bit8: IN2 bit9: IN3							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-31	Running mode (normal/jogging)	0x951F	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the actual operation mode. 0 indicates normal operation and 1 indicates jogging.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-32	Jogging source 1/2	0x9520	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Defines the jog source. 0 indicates JOG1 and 1 indicates JOG2.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

L5-33	Control target	0x9521	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Control mode 0: Speed control 1: Torque control 2: Position control							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-34	RFG status word	0x9522	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L5-35	RFG command word	0x9523	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L5-38	V/f separation time set to 0	0x9526	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Used to enable V/f function. When the RFG time for V/f separation is set to 0, 1 will be outputted. Otherwise, 0 is outputted.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-40	AI1 raw sampling value	0x9528	-32.768V~+ 32.767V	0.000V	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the raw sampling value of AI1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-41	AI2 raw sampling value	0x9529	-32.768V~+ 32.767V	0.000V	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the raw sampling value of AI1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-42	AI3 raw sampling value	0x952A	-32.768V~+32.767V	0.000V	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the raw sampling value of AI1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-43	AI1 sampling value after correction	0x952B	-327.68V~+327.67V	0.00V	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the corrected sampling value of AI1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-44	AI2 sampling value after correction	0x952C	-327.68V~+327.67V	0.00V	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the corrected sampling value of AI1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-45	AI3 sampling value after correction	0x952D	-327.68V~+327.67V	0.00V	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the corrected sampling value of AI1.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-46	INPUT of AI1 curve	0x952E	-327.68V~+327.67V	0.00V	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description:							

	Displays the processed input value of AI1 curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-47	Input value of AI2 curve	0x952F	-327.68V~+327.67V	0.00V	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the processed input value of AI1 curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-48	Input value of AI3 curve	0x9530	-327.68V~+327.67V	0.00V	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the processed input value of AI1 curve.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-49	AO1 output (before correction)	0x9531	-327.68V~+327.67V	0.00V	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the AO1 value before automatic correction.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-50	AO2 output (before correction)	0x9532	-327.68V~+327.67V	0.00V	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the AO1 value before automatic correction.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-51	AO1 output (after correction)	0x9533	-32.768V~+32.767V	0.000V	Signed 16 bits	Cannot be changed	Expert user	Effective in real time

	Description: Displays the AO1 value after automatic correction.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-52	AO2 output (after correction)	0x9534	-32.768V~+ 32.767V	0.000V	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the AO1 value after automatic correction.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-53	HDI input frequency	0x9535	0.00kHz~655.35kHz	0.00kHz	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays DI5 high-speed pulse input sampling frequency in kHz.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-54	Counter output	0x9536	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Counter output							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-55	Length count	0x9537	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Accumulative length value output							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-56	Displays the communication reference command	0x9538	0~65535	0	Unsigned 16 bit	Cannot be	Expert user	Effective in real

	word.					changed		time
	Description: Communication reference command word bit0: off1 bit1: off2 bit2: off3 bit3: Operation permission bit4: Reset bit5: JOG1 bit6: JOG2 bit7: Speed inverted							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-57	Display of communication setpoint	0x9539	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
L5-58	Communication command clear flag	0x953A	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L5-59	RFG performance forcing enable	0x953B	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays RFG performance forced enable state flag.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-60	Pre-motor parameter auto-tuning command	0x953C	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Display the pre-auto-tuning command, which is 1 during pre-auto-tuning. Otherwise, it is 0.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-62	DI immediate DC braking command	0x953E	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

	Description: The DC braking command state is set by DI.

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-70	Main speed	0x9546	-327.68Hz~ +327.67Hz	0.00Hz	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the main speed reference in Hz.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L5-71	Multi-speed	0x9547	-327.68Hz~ +327.67Hz	0.00Hz	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the auxiliary speed reference in Hz.							

L6 Word Connector 2

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-00	Rated motor speed	0x9600	0rpm~65535rpm	0rpm	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: The rated motor speed indicates the speed (in the unit of rpm) of the rotor under the rated operating conditions.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-01	Rated motor frequency	0x9601	0.0Hz~6553.5Hz	0.0Hz	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: The rated motor frequency indicates the frequency of the power supply connected to the stator winding under the rated operation conditions of the motor.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-02	Rated voltage	0x9602	0.0V~6553.5V	0.0V	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: The rated motor voltage indicates the voltage of the motor during normal operation, which usually refers to the line voltage.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-03	Rated current	0x9603	0.0A~6553.5A	0.0A	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: The rated motor current indicates the current of the motor during normal operation, which usually refers to the line current.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-04	Rated power	0x9604	0.0kW~6553.5kW	0.0kW	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: This parameter indicates the power of the motor during normal operation. The rated power of the motor is the rated voltage x rated current of the motor. Select a motor with a proper power rating on the premise that the motor can meet the requirements of mechanical load. Take the motor heat dissipation, allowable overload capacity, and starting capacity into account.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-05	System main status word C	0x9605	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

Value:

Bit	Name
bit 0	Control channel selection
bit1	Setting channel selection
bit2	0-bit selected for motor

bit3	1-bit selected for motor
bit4	Exception (Fault\Alarm)
bit5	EEPROM idled
bit12	Reserved

Description:
bit0: Control channel selection
bit1: Setting channel selection
bit2: 0-bit selected for motor
bit3: 1-bit selected for motor
bit4: Exception(Fault\Alarm)
bit5: EEPROM idled
bit6: 0: Communication control active
bit7: 0: Relay inactive during fault and automatic reset 1: Relay active during fault and automatic reset
bit8: Actual internal IGBT pulsing state 0-Stop 1-Operate (including decelerated operation)
Bit9: 0-Forward 1-Reverse
Bit10: 0: Brake command opened in auto-tuning state
Bit11: Flag for internal parameter processing in batches, such as parameter restoration, model-related parameter modification 0: No operation; 1: Processing in progress
bit12 to bit15: Reserved

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-06	Motor object auxiliary status word 2	0x9606	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

Description:
bit 0: Motor operating at zero speed
bit1: Motor DC output
bit2 to bit3: FVC switched to SVC, 0-Not switched; 1-Switched to SVC actively; 2-Switched to SVC passively
bit4: Following the control target or not: 0-Yes, 1-No
bit5: VdcMin control active
bit6: VdcMax control active
bit7: Min. torque reached
bit8: Max. Torque reached
bit9: Generating flag; 0-Motoring, 1-Generating
bit10: Auto-tuning of stator resistance before start
bit11-bit12: Pre-charge flag; 0-Not started, 1-In progress, 2-Done
bit13: Auto-tuning of stator resistance before start
bit14: Auto-tuning of saturation model before start
bit15: Reserved

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-07	Stop frequency control for V/f separation	0x9607	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Used to select the stop mode for V/f separation. 0:Frequency and voltage declined to 0 independently 1:Frequency declined to 0 after voltage declined to 0 2:Coast to stop							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-08	Torque control frequency offset mode	0x9608	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: 0: Bidirectional offset 1: Unidirectional offset 2: Bidirectional/Unidirectional offset							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-09	RFG acceleration/deceleration state	0x9609	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: 0: Constant-speed 1: Accelerate 2: Decelerate							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-10	RFG rounding state	0x960A	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L6-11	Inverter protection state monitoring	0x960B	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

	Description: bit0: Pulse-by-pulse current limiting protection state bit1: VCE bit2: Input phase loss bit3: Output phase loss bit4: Pre-charge resistor abnormal bit5: Drive overload bit6: Drive pre-overload bit7: Bus overvoltage bit8: Bus undervoltage bit9: Output overcurrent bit10: Drive overtemperature bit11: Drive pre-overtemperature bit12: Current leakage protection bit13: Current control error bit14: Software overcurrent bit15: Short circuit to ground (reserved)

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-12	Modulation module status word	0x960C	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: bit0: Enter overmodulation area or not bit1-3: 0-CPWM 1-DPWM bit4: Narrow pulse activated bit5: Dead zone compensation active bit6: Random PWM active bit7 to bit8: 0-Asynchronous modulation 1- Pseudo synchronous modulation bit9: Whether carrier frequency forced state applied bit10 to bit11: High carrier frequency state; 0-Normal carrier frequency; 1-High carrier frequency wait for confirmation; 3-High carrier frequency activated bit12: Pulsing timeout flag bit13 to bit15: Reserved							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-13	Body sampling status word	0x960D	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

	Description: bit0-3: Current sampling mode bit4: Software overcurrent state bit5: Excessive zero drift state bit6: ADC calibration state flag; 0-In progress; 1-Done bit7: Zero drift detection state flag; 0-In progress; 1-Done bit8: Braking circuit zero drift detection state flag; 0-In progress; 1-Done bit9: Excessive braking transistor zero drift fault flag; 0-Normal; 1-Fault

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-14	AI2 temperature mode - motor temperature sampling value	0x960E	-32768°C~+32767°C	0°C	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: AI2 temperature mode - Motor temperature sampling value							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-15	AI3 temperature mode - motor temperature sampling value	0x960F	-32768°C~+32767°C	0°C	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: AI2 temperature mode - Motor temperature sampling value							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-16	Motor protection status word	0x9610	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

Value:

Bit	Name
bit0	Motor overload
bit1	Motor pre-overload
bit2	Output load loss (reserved)
bit3	PG-detected fault (reserved)
bit4	Current control error
bit5	Motor stall
bit6	Motor wire breakage, two- or three-phase loss (reserved)

bit7	Excessive motor load at constant current (reserved)
bit8	VC out-of-step due to magnetic flux exception
bit9	Abnormal speed fluctuation (reserved)
bit10	Motor parameter setting error (reserved)
bit11	HSVM sampling card wire breakage and misphase (reserved)
bit12	Synchronous motor overcurrent (reserved)

Description:

bit0: Motor overload

bit1: Motor pre-overload

bit2: Output load loss (reserved)

bit3: PG detection fault (reserved)

bit4: Current control error

bit5: Motor stall

bit6: Motor disconnected, two-phase or three-phase loss (reserved)

bit7: Motor constant-current load too large (reserved)

bit8: VC operation step loss due to motor flux error

bit9: Speed measurement fluctuation error (reserved)

bit10: Motor parameter setting error (reserved)

bit11: HSVM sampling card disconnected, phase error (reserved)

bit12: Synchronous motor overcurrent (reserved)

bit13: Synchronous motor output voltage error

bit14: Encoder disconnected

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-17	Speed controller status word	0x9611	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

Value:

Bit	Name
bit0	Speed loop enable
bit2	Integral activated forcibly
bit3	Feedforward torque activated
bit4	Forward limit reached
bit5	Reverse limit reached
bit6	Integral kept active
bit7	Fast integral cancel activated
bit8	Load disturbance resistance activated
bit9	Last cycle integral mode

bit10	Reserved

Description:
bit0: Speed loop enable
bit1: Actual state of integral mode 0: Traditional integral; 1: Position integral
bit2: Integral activated forcibly
bit3: Feedforward torque activated
bit4: Forward limit reached
bit5: Reverse limit reached
bit6: Integral kept active
bit7: Fast integral cancel activated
bit8: Load disturbance resistance activated
bit9: Last cycle integral mode
bit10- bit15: Reserved

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-18	Vector overvoltage/undervoltage suppression status word	0x9612	Refer to "Value"	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

Value:

Bit	Name
bit0	Under voltage suppression activated
bit1	Overvoltage suppression activated
bit2	Under voltage suppression enters lower limit of low frequency
bit3	Reserved

Description:
bit0: Under voltage suppression activated
bit1: Overvoltage suppression activated
bit2: Under voltage suppression enters lower limit of low frequency
bit3-bit15eserved

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-19	Excitation module status word	0x9613	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

Description:
bit0: 0-Non-field weakening range of inverse ratio speed field weakening 1-Field weakening range of inverse ratio speed field weakening

	bit1: 0-Field weakening of adjustment mode is in the non-field weakening range. 1-Field weakening of adjustment mode enters the field weakening range. bit2: 0-Pre-excitation not done 1-Pre-excitation ended bit3: Field weakening flag bit4: Energy-saving control flag bit5: 0-Output of non-field weakening module being 0 1-Adjusted frequency setpoint output being non-zero of non-field weakening module bit6-bit15: Reserved

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-20	Motor model status word	0x9614	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: bit0: Inverse ratio field weakening flag bit1: Voltage outer loop field weakening flag bit2: Total field weakening flag bit3: Energy-saving control flag bit4-bit15: Reserved							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-21	Motor current loop status word	0x9615	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: bit0: Current loop output voltage saturation flag bit 0-Unsaturated 1-Saturated bit1: Current loop feedforward control flag bit: 0-Non-operational 1-Operational bit2: Current loop decoupling control flag bit: 0-Non-operational; 1-Operational bit3: Current loop proportion gain adjusted with load 0-Not adjusted 1-Adjusted bit4: Current loop D-axis open loop status flag bit 0-D-axis closed loop; 1-D-axis open loop bit5: ImCsr2 high-speed mode active 0 Low-speed mode active bit6: 1-PI regulator output voltage angle exceeding the limit 0-Not exceeding the limit bit7: 1-Magnetic linkage setting limit distorted 0-Magnetic linkage setting limit not distorted bit8-bit15: Reserved							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-22	Motor V/f control status word	0x9616	0~65535	0	Unsigned 16 bit	Cannot be	Expert user	Effective in real

						changed		time
L6-23	Per-unit frequency after HDO function source selection	0x9617	0.00%~655.35%	0.00%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Defines the frequency per-unit value after display source is selected for HDO.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-24	Per-unit frequency before HDO curve correction	0x9618	0.00%~655.35%	0.00%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Defines the frequency per-unit value before correction of HDO curve							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-25	Per-unit value of HDO final output frequency	0x9619	0.00%~655.35%	0.00%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Defines the final frequency per-unit value of HDO							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-26	Actual value of HDO final output frequency	0x961A	0.00kHz~655.35kHz	0.00kHz	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Defines the actual frequency outputted finally by HDO.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-27	Flag for power-related decimal place change	0x961B	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Flag for power-related decimal place change							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-28	Torque limit status word	0x961C	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: bit0-bit2: Upper limit flag: 1-Inductance leakage limit; 2-Current limit; 3-Torque limit; 4-Power limit bit3-bit5: Lower limit flag: 1-Inductance leakage limit; 2-Current limit; 3-Torque limit; 4-Power limit bit6: Positive speed limit bit7: Negative speed limit bit8: External forced torque upper limit bit9-bit15: Reserved							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-29	IF control enable	0x961D	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L6-30	Master state	0x961E	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the master operation state, which is 1 during operation or 0 during stop and auto-tuning.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-31	Master phase sequence	0x961F	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Master operating direction selection (F0-09)							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-32	Slave-follow-master command flag	0x9620	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Slave-follow-master command flag							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-33	Control mode activated	0x9621	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the control mode set externally. 0: Speed control 1: Torque control 2: Position control							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-34	STO state	0x9622	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: STO status output flag							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-35	System main status word D	0x9623	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the main status word D of the system. This state is active when each bit is 1. bit0: Operating at zero speed (inactive upon stop) bit1: Zero speed (inactive upon stop) bit2: Frequency-level detection 1 bit3: Frequency-level detection 2 bit4: AI1 > AI2 bit5: Simple PLC cycle completed bit6: Communication setting value bit7: STO state bit8: Current 1 reached bit9: Current 1 reached bit10: Zero current state bit11: Output current limit exceeded bit12: Motor overload pre-alarm bit13: Drive overload pre-alarm							

	bit14: Undervoltage bit15: Load loss							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-36	Under voltage fault flag	0x9624	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Undervoltage fault output flag							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-37	Fault restart clear command	0x9625	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the clear command flag of automatic restart upon fault. 0: Not restart upon fault 1: Restart upon fault							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-38	Wiring mode of effective module A	0x9626	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Module A terminal command mode 0: Two-wire mode 1 1: Two-wire mode 2 2: Three-wire mode 1 3: Three-wire mode 2							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-39	Wiring mode of effective module B	0x9627	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Module B terminal command mode							

	0: Two-wire mode 1 1: Two-wire mode 2 2: Three-wire mode 1 3: Three-wire mode 2

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-40	Effective external command source	0x9628	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the effective command source. 0: Operating panel 1: Terminal 2: Communication 3: Customized							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-41	CIA402 mode	0x9629	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays the CIA402 mode. 2 is VL mode (currently only VL mode is supported).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-42	Limit flag	0x962A	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: bit00: Limit activation flag off3 bit01: Positive hardware limit bit02: Negative hardware limit bit03: Positive software limit bit04: Negative software limit							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L6-43	Communication fault reset	0x962B	0~65535	0	Unsigned	Cannot	Expert	Effective

	enable				16 bit	be changed	user	in real time
	Description: Communication fault automatic flag							

L7 Word Connector 3

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-00	Per-unit constant value 22	0x9700	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-01	Per-unit constant value 23	0x9701	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-02	Per-unit constant value 24	0x9702	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-03	Per-unit constant value 25	0x9703	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-04	Per-unit constant value 26	0x9704	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-05	Per-unit constant value 27	0x9705	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-06	Per-unit constant value 28	0x9706	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-07	Per-unit constant value 29	0x9707	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-08	Per-unit constant value 30	0x9708	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-09	Per-unit constant value 31	0x9709	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-10	Per-unit constant value 32	0x970A	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-11	Per-unit constant value 33	0x970B	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-12	Per-unit constant value 34	0x970C	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

L7-13	Per-unit constant value 35	0x970D	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-14	Per-unit constant value 36	0x970E	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-15	Per-unit constant value 37	0x970F	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-16	Per-unit constant value 38	0x9710	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-17	Per-unit constant value 39	0x9711	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-18	Per-unit constant value 40	0x9712	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-19	Per-unit constant value 41	0x9713	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-20	Per-unit constant value 42	0x9714	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-21	B2W module A	0x9715	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit-to-word module A output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-22	B2W module B	0x9716	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit-to-word module B output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-23	B2W module C	0x9717	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays bit-to-word module C output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-24	B2W module D	0x9718	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description:							

	Displays bit-to-word module D output.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-25	DW-W HIWORD A	0x9719	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays high word output of double word-to-single word module A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-26	DW-W LOWORD A	0x971A	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays low word output of double word-to-single word module A.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-27	DW-W HIWORD B	0x971B	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays high word output of double word-to-single word module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-28	DW-W LOWORD B	0x971C	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays low word output of double word-to-single word module B.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-29	DW-W HIWORD C	0x971D	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
	Description: Displays high word output of double word-to-single word module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-30	DW-W LOWORD C	0x971E	-32768~+32767	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays low word output of double word-to-single word module C.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-31	DW-W HIWORD D	0x971F	-	0	Signed 16	Cannot be	Expert	Effective in

			32768~+32767		bits	changed	user	real time
	Description: Displays high word output of double word-to-single word module D.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-32	DW-W LOWORD D	0x9720	-32768~+32767	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays low word output of double word-to-single word module D.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-36	16-bit parameter monitoring 1	0x9724	-32768~+32767	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
L7-37	16-bit parameter monitoring 2	0x9725	-32768~+32767	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
L7-38	16-bit parameter monitoring 3	0x9726	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-39	16-bit parameter monitoring 4	0x9727	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-40	16-bit parameter monitoring 5	0x9728	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-41	Output of word selector A	0x9729	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-42	Output of word selector B	0x972A	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-43	Output of word selector C	0x972B	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-44	Output of word selector D	0x972C	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L7-50	Internal parameter monitoring output 1	0x9732	0~1	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-51	Internal parameter monitoring output 2	0x9733	0~1	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time

L7-52	Internal parameter monitoring output 3	0x9734	0~1	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
L7-53	Internal parameter monitoring output 4	0x9735	0~1	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
L7-54	Internal parameter monitoring output 5	0x9736	0~1	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
L7-55	Internal parameter monitoring output 6	0x9737	0~1	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L7-56	Internal parameter monitoring output 7	0x9738	0~1	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
L7-57	Internal parameter monitoring output 8	0x9739	0~1	0	Signed 16 bits	Cannot be changed	Expert user	Effective in real time

L9 Double-word connector 1

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L9-00	Output of W-DW module A	0x9900	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-01	Output of W-DW module B	0x9901	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-02	Output of W-DW module C	0x9902	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-03	Output of W-DW module D	0x9903	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-04	Output of DWord selector module A	0x9904	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L9-05	Output of DWord selector module B	0x9905	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-06	Output of DWord selector module C	0x9906	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-07	Output of DWord selector module D	0x9907	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-08	Output of fixed-point absolute value module F	0x9908	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

L9-09	Output of fixed-point absolute value module G	0x9909	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L9-10	Output of fixed-point absolute value module H	0x990A	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-11	Output of fixed-point ADD/SUBTRACT module F	0x990B	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-12	Output of fixed-point ADD/SUBTRACT module G	0x990C	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-13	Output of fixed-point ADD/SUBTRACT module H	0x990D	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-14	Output of fixed-point MULTIPLY/DIVIDE module F	0x990E	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L9-15	Output of fixed-point MULTIPLY/DIVIDE module G	0x990F	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-16	Output of fixed-point MULTIPLY/DIVIDE module H	0x9910	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-17	Output of fixed-point filter module E	0x9911	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-18	Output of fixed-point filter module F	0x9912	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-19	Output of fixed-point limiting module E	0x9913	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L9-20	Output of fixed-point limiting module F	0x9914	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-21	32-bit parameter monitoring 1	0x9915	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-22	32-bit parameter monitoring 2	0x9916	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-23	32-bit parameter monitoring 3	0x9917	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-24	32-bit parameter monitoring 4	0x9918	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L9-25	32-bit parameter monitoring 5	0x9919	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-30	Variable connector output view 1	0x991E	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-31	Variable connector output view 2	0x991F	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-32	Variable connector output view 3	0x9920	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-33	Variable connector output view 4	0x9921	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
L9-34	Variable connector output view 5	0x9922	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-35	Variable connector output view 6	0x9923	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-36	Variable connector output view 7	0x9924	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time
L9-37	Variable connector output view 8	0x9925	0~65535	0	Unsigned 16 bit	Cannot be changed	Expert user	Effective in real time

LB Information of Float Connector 1

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-00	AI1 input per-unit value	0x9B00	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Processed per-unit value of AI1 input							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-01	AI2 input per-unit value	0x9B01	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Processed per-unit value of AI2 input							
Param	Name	Communication	Range	Default	Data	Change	User	Effective

		address			type	mode	authority	mode
LB-02	AI3 input per-unit value	0x9B02	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Processed per-unit value of AI3 input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-03	HDI input per-unit value	0x9B03	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Processed per-unit value of HDI input							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-04	Display the per-unit value of the speed reference set through communication.	0x9B04	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Display the per-unit value of the speed reference set through communication.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-05	Main speed reference	0x9B05	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the per-unit value of main speed reference before limit.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-06	Auxiliary speed reference	0x9B06	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Display per-unit value of auxiliary speed reference before limit.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-07	Channel target speed	0x9B07	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the target speed of the channel after speed invert command is activated.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-08	Channel supplementary speed	0x9B08	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the supplementary speed of the channel after speed invert command is activated.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-09	Supplementary speed setpoint	0x9B09	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the supplementary speed of the channel before speed invert command is activated.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-10	Maximum forward speed	0x9B0A	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the maximum forward speed of the setting channel.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-11	Minimum forward speed	0x9B0B	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the minimum forward speed of the setting channel.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-12	Maximum reverse speed	0x9B0C	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the maximum reverse speed of the setting channel.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-13	Minimum reverse speed	0x9B0D	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description:							

	Displays the minimum reverse speed of the setting channel.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-14	Forward limit	0x9B0E	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the forward limit after the setting channel is activated.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-15	Reverse limit	0x9B0F	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the reverse limit after the setting channel is activated.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-16	Speed reference - raw	0x9B10	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the original speed reference.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-17	Speed reference - direction limit	0x9B11	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the direction limit of the speed reference.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-18	Speed reference - after limiting	0x9B12	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the speed reference after being limited.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-19	Speed reference - after skip frequency	0x9B13	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time

	Description: Displays the speed reference after frequency jump.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-20	Speed reference - after ramp shift	0x9B14	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the speed reference after ramp shift.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-21	Torque reference	0x9B15	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the speed reference after being limited in platform torque mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-22	Supplementary torque	0x9B16	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the supplementary torque after being limited based on the sum of additional torque 1 and additional torque 2 in the platform torque mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-23	Torque reference after filtering	0x9B17	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the filtered torque reference in the platform torque mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-24	Target torque reference	0x9B18	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the target torque reference after the reference reference acceleration and deceleration time is passed in the platform torque mode. 0 is displayed when the motor does not operate.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

LB-25	Maximum torque	0x9B19	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the maximum torque in the platform torque mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-26	Minimum torque	0x9B1A	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the minimum torque in the platform torque mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-27	RFG reference input	0x9B1B	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays RFG setting input.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-28	RFG calculation input	0x9B1C	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays RFG calculation input.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-29	RFG actual target	0x9B1D	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays RFG actual target.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-30	RFG calculation output	0x9B1E	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays RFG calculation output.							
Param	Name	Communication	Range	Default	Data	Change	User	Effective

		address			type	mode	authority	mode
LB-31	RFG final output (maximum per-unit value)	0x9B1F	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays final RFG output (maximum per-unit value).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-32	RFG final output (rated per-unit value)	0x9B20	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays final RFG output (rated per-unit).							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-33	Updown upper limit	0x9B21	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays updown upper limit.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-34	Updown lower limit	0x9B22	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays updown lower limit.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-35	RFG acceleration	0x9B23	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays RFG acceleration rate.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-36	V/f separation voltage output	0x9B24	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays V/f separation voltage output.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-37	RFG force value of startup frequency function	0x9B25	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays RFG forced value of starting frequency function							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-38	Speed limit in torque control mode	0x9B26	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays torque control speed limit in the platform torque mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-39	Frequency offset in torque control mode	0x9B27	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays torque control frequency offset in platform torque mode.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-40	Running frequency	0x9B28	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-41	Frequency reference	0x9B29	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-42	Speed reference - after UpDn	0x9B2A	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-43	Main frequency + Auxiliary frequency	0x9B2B	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-44	Main frequency - Auxiliary frequency	0x9B2C	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-45	Primary frequency x Auxiliary	0x9B2D	-3276.8%~+	0.0%	Signed	Cannot be	Expert	Effective in

	frequency		3276.7%		16 bits	changed	user	real time
LB-46	Maximum between primary and secondary frequencies	0x9B2E	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-47	Minimum between primary and secondary frequencies	0x9B2F	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-48	Original setting of main frequency	0x9B30	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-49	Original setting of auxiliary frequency	0x9B31	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-51	Max. reverse frequency	0x9B33	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-52	Maximum between AI1 and AI2	0x9B34	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-53	Minimum between AI1 and AI2	0x9B35	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-54	Torque upper limit in motoring state	0x9B36	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the upper limit of driving torque in the MD500 torque mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-55	Torque upper limit in generative state	0x9B37	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the upper limit of braking torque in the MD500 torque mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-56	Target voltage upon V/f separation	0x9B38	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time

LB-57	Target torque in compatible torque mode	0x9B39	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Displays the target torque in the MD500 torque mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-58	Forward jog frequency	0x9B3A	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-59	Reverse jog frequency	0x9B3B	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-60	Intermediate value of operating frequency	0x9B3C	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-61	Speed setpoint after being limited	0x9B3D	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-62	Output current	0x9B3E	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-64	Output power	0x9B40	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-65	Output torque	0x9B41	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-66	Motor rotational speed	0x9B42	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-67	Y-channel adjustment range	0x9B43	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-93	Master frequency	0x9B5D	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the master frequency calculated by the slave.							

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-94	Master torque	0x9B5E	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the master torque calculated by the slave.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LB-95	Speed base value	0x9B5F	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LB-96	Frequency base value	0x9B60	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time

LC Information of Float Connector 2

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-00	Final frequency reference	0x9C00	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the frequency set finally.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-01	Final voltage reference	0x9C01	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the final voltage setpoint in vector mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-02	Output voltage without limit	0x9C02	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the current loop output voltage without being limited in the vector mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

LC-03	Voltage phase angle	0x9C03	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the voltage phase angle relative to the field orientation angle.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-04	Maximum output voltage	0x9C04	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the maximum output voltage that detected to be overmodulated by the PWM module.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-05	Current loop saturation voltage	0x9C05	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Current loop saturation voltage calculated in ImCsr2 mode							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-06	Torque reference	0x9C06	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Final torque setpoint of speed loop output							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-07	Final flux reference	0x9C07	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Final flux setting of motor control							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-08	Excitation current reference	0x9C08	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-09	Torque current reference	0x9C09	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time

LC-10	Rotor speed	0x9C0A	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: The rotor speed is observed speed in SVC mode, encoder speed in FVC mode, or drive output frequency is V/f mode.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-11	Encoder speed	0x9C0B	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-12	Output torque	0x9C0C	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the real-time torque output of the motor.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-13	Flux amplitude	0x9C0D	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the motor flux amplitude observed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-14	Flux angle	0x9C0E	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the motor flux phase angle observed.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-15	Synchronization frequency	0x9C0F	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Defines the fundamental frequency outputted by the drive.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-16	Synchronous rotation angle	0x9C10	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time

	Description: D-axis angle							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-17	Motor object output power	0x9C11	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: The motor output power is calculated based on the product of speed multiplied by the torque.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-18	Output voltage amplitude	0x9C12	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-19	Output current amplitude	0x9C13	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-20	Actual excitation current of motor	0x9C14	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-21	Actual torque current of motor	0x9C15	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-22	Output power	0x9C16	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: The drive output power is calculated based on the output voltage and output current.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-23	PWMU	0x9C17	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Phase-U voltage							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-24	PWMV	0x9C18	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description:							

	Phase-V voltage							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-25	PWMW	0x9C19	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Phase-W voltage							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-26	IU	0x9C1A	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Phase U current							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-27	IV	0x9C1B	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Phase V current							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-28	IW	0x9C1C	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Phase W current							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-31	Displays the bus voltage of the drive.	0x9C1F	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-32	Drive overload accumulative value	0x9C20	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Defines the accumulative value of drive overload. When 100% is reached, the drive reports overload fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

LC-33	Accumulative motor overload	0x9C21	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Defines the accumulative value of motor overload. When 100% is reached, the motor reports overload fault.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-34	Output voltage phase	0x9C22	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Defines the angle of the output voltage relative to d-axis.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-35	Output current phase	0x9C23	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
	Description: Indicates the angle of output current relative to d-axis.							
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-36	General PID output	0x9C24	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-37	General PID error	0x9C25	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-38	General PID reference	0x9C26	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-39	General PID feedback	0x9C27	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-40	General PID proportional output	0x9C28	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-41	General PID integral output	0x9C29	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time

LC-42	General PID derivative output	0x9C2A	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-92	Variable connector output view 1	0x9C5C	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-93	Variable connector output view 2	0x9C5D	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-94	Variable connector output view 3	0x9C5E	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LC-95	Variable connector output view 4	0x9C5F	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-96	Variable connector output view 5	0x9C60	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-97	Variable connector output view 6	0x9C61	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-98	Variable connector output view 7	0x9C62	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LC-99	Variable connector output view 8	0x9C63	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time

LD Information of float connector 3

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-00	Output of float selector module A	0x9D00	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-01	Output of float selector module B	0x9D01	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time

LD-02	Output of float selector module C	0x9D02	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-03	Output of float selector module D	0x9D03	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-04	Output of float selector module E	0x9D04	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-05	Output of float selector module F	0x9D05	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-06	Output of float selector module G	0x9D06	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-07	Output of float selector module H	0x9D07	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-08	Output of float absolute value module A	0x9D08	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-09	Output of float absolute value module B	0x9D09	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-10	Output of float absolute value module C	0x9D0A	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-11	Output of float absolute value module D	0x9D0B	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-12	Output of float absolute value module E	0x9D0C	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-13	Output of float ADD/SUBTRACT module A	0x9D0D	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-14	Output of float	0x9D0E	-	0.0%	Signed	Cannot be	Expert	Effective in

	ADD/SUBTRACT module B		3276.8%~+3276.7%		16 bits	changed	user	real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-15	Output of float ADD/SUBTRACT module C	0x9D0F	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-16	Output of float ADD/SUBTRACT module D	0x9D10	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-17	Output of float ADD/SUBTRACT module E	0x9D11	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-18	Output of float MULTIPLY/DIVIDE module A	0x9D12	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-19	Output of float MULTIPLY/DIVIDE module B	0x9D13	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-20	Output of float MULTIPLY/DIVIDE module C	0x9D14	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-21	Output of float MULTIPLY/DIVIDE module D	0x9D15	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-22	Output of float MULTIPLY/DIVIDE module E	0x9D16	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-23	Output of float filter module A	0x9D17	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-24	Output of float filter module B	0x9D18	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-25	Output of float filter module C	0x9D19	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time

LD-26	Output of float filter module D	0x9D1A	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-27	Output of float limiting module A	0x9D1B	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-28	Output of float limiting module B	0x9D1C	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-29	Output of float limiting module C	0x9D1D	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-30	Output of float limiting module D	0x9D1E	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-31	Output of word-to-float module A	0x9D1F	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-32	Output of single word-to-float module B	0x9D20	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-33	Output of single word-to-float module C	0x9D21	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-34	Output of single word-to-float module D	0x9D22	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-35	Output of double word-to-float module A	0x9D23	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-36	Output of double word-to-float module B	0x9D24	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-37	Output of double word-to-float module C	0x9D25	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-38	Output of double word-to-	0x9D26	-	0.0%	Signed	Cannot be	Expert	Effective in

	float module D		3276.8%~+3276.7%		16 bits	changed	user	real time
LD-39	Forced value of motorized potentiometer	0x9D27	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-40	Reset value of motorized potentiometer	0x9D28	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-41	Maximum value of motorized potentiometer	0x9D29	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-42	Minimum value of motorized potentiometer	0x9D2A	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-43	Initial value of motorized potentiometer	0x9D2B	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-44	Process operation output value of motorized potentiometer	0x9D2C	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-45	Final output value of motorized potentiometer	0x9D2D	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-46	Output of multi-point curve module A	0x9D2E	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-47	Output of multi-point curve module B	0x9D2F	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-48	Multi-reference selection output	0x9D30	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-49	Multi-reference 1 output	0x9D31	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode

LD-50	Multi-reference 2 output	0x9D32	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-51	Multi-reference 3 output	0x9D33	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-52	Multi-reference 4 output	0x9D34	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-53	Multi-reference 5 output	0x9D35	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-54	Multi-reference 6 output	0x9D36	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-55	Multi-reference 7 output	0x9D37	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-56	Multi-reference 8 output	0x9D38	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-57	Multi-reference 9 output	0x9D39	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-58	Multi-reference 10 output	0x9D3A	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-59	Multi-reference 11 output	0x9D3B	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-60	Multi-reference 12 output	0x9D3C	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-61	Multi-reference 13 output	0x9D3D	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-62	Multi-reference 14 output	0x9D3E	-	0.0%	Signed	Cannot be	Expert	Effective in

			3276.8%~+3276.7%		16 bits	changed	user	real time
LD-63	Multi-reference 15 output	0x9D3F	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-64	Multi-reference 16 output	0x9D40	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-65	Per-unit constant value 1	0x9D41	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-66	Per-unit constant value 2	0x9D42	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-67	Per-unit constant value 3	0x9D43	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-68	Per-unit constant value 4	0x9D44	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-69	Per-unit constant value 5	0x9D45	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-70	Per-unit constant value 6	0x9D46	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-71	Per-unit constant value 7	0x9D47	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-72	Per-unit constant value 8	0x9D48	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-73	Per-unit constant value 9	0x9D49	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-74	Per-unit constant value 10	0x9D4A	-3276.8%~+	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time

			3276.7%					
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-75	Per-unit constant value 11	0x9D4B	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-76	Per-unit constant value 12	0x9D4C	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-77	Per-unit constant value 13	0x9D4D	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-78	Per-unit constant value 14	0x9D4E	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-79	Per-unit constant value 15	0x9D4F	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-80	Per-unit constant value 16	0x9D50	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-81	Per-unit constant value 17	0x9D51	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-82	Per-unit constant value 18	0x9D52	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-83	Per-unit constant value 19	0x9D53	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-84	Per-unit constant value 20	0x9D54	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-85	Per-unit constant value 21	0x9D55	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-86	Updown offset	0x9D56	-	0.0%	Signed	Cannot be	Expert	Effective in

			3276.8%~+3276.7%		16 bits	changed	user	real time
LD-87	Percentage of current length relative to target length	0x9D57	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-88	Percentage of current counting value relative to target counting value	0x9D58	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-89	AO1 value percentage written via communication	0x9D59	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-90	AO2 value percentage written via communication	0x9D5A	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-91	HDO value percentage written via communication	0x9D5B	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-92	Current value based on the maximum 1000 A per-unit value	0x9D5C	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-93	Voltage value based on the maximum 1000 V per-unit value	0x9D5D	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-94	AO output torque absolute value output	0x9D5E	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LD-95	AO output torque (–200.0% to +200.0%)	0x9D5F	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-98	Real-time current reference of IF separation	0x9D62	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time
LD-99	Communication setting	0x9D63	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time

LE Information of Float Connector 4

Param	Name	Communication address	Range	Default	Data type	Change mode	User authority	Effective mode
LE-00	Communication setting	0x9E00	-3276.8%~+3276.7%	0.0%	Signed 16 bits	Cannot be changed	Expert user	Effective in real time

2 List of fault codes

Fault code	Fault name	Fault level	Default fault level	Reset	Page
E002.1	Hardware overcurrent	0: Coast to stop	0: Coast to stop	Yes	page1148
E002.2	Software overcurrent	0: Coast to stop	0: Coast to stop	Yes	page1149
E005.1	Bus overvoltage	0: Coast to stop	0: Coast to stop	Yes	page1151
E008.1	Frequent contactor action	0: Coast to stop	0: Coast to stop	Yes	page1152
E009.1	Undervoltage	0: Coast to stop	0: Coast to stop	Yes	page1152
E009.3	Pre-drive timeout	0: Coast to stop	0: Coast to stop	Yes	page1153
E010.1	The drive is overloaded.	0: Coast to stop	0: Coast to stop	Yes	page1154
L010.3	The drive is pre-overloaded.	3: Power limited 4: Current limited 5: Ignored 6: No action	6: No action	Yes	page1155
E011.1	Motor overload	0: Coast to stop	0: Coast to stop	Yes	page1157
E011.2 / L011.2	Motor pre-overload	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	6: No action	Yes	page1157
E012.1 / L012.1	Input phase loss	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	0: Coast to stop	Yes	page1158
E013.1	Phase loss occurred on phase-U output	0: Coast to stop	0: Coast to stop	Yes	page1159
E013.2	Phase loss occurred on phase-V output	0: Coast to stop	0: Coast to stop	Yes	page1160
E013.3	Phase loss occurred on	0: Coast to stop	0: Coast to stop	Yes	page1160

Fault code	Fault name	Fault level	Default fault level	Reset	Page
	phase-W output				
E014.1	Drive overtemperature	0: Coast to stop	0: Coast to stop	Yes	page1161
E014.2	Pre-overtemperature occurs on the drive.	6: No action	6: No action	Yes	page1161
E015.1	External fault 1	0: Coast to stop	0: Coast to stop	Yes	page1162
E015.2	External fault 2	0: Coast to stop	0: Coast to stop	Yes	page1163
E017.1 / L017.1	The buffer contactor is faulty.	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	0: Coast to stop	Yes	page1163
E018.1	Current detection circuit fault	0: Coast to stop	0: Coast to stop	Yes	page1164
E019.1	Motor parameter auto-tuning times out.	0: Coast to stop	0: Coast to stop	Yes	page1164
E019.2	Motor parameter auto-tuning interrupted	0: Coast to stop	0: Coast to stop	Yes	page1165
E019.3	Overcurrent during auto-tuning	0: Coast to stop	0: Coast to stop	Yes	page1165
E019.4	Back EMF auto-tuning exception	0: Coast to stop	0: Coast to stop	Yes	page1165
E019.5	Motor type error	0: Coast to stop	0: Coast to stop	Yes	page1166
E019.6	The current sampling phase-to-phase gain deviation auto-tuning error occurs.	0: Coast to stop	0: Coast to stop	Yes	page1166
E019.7	No-load current auto-tuning overlimit	0: Coast to stop	0: Coast to stop	Yes	page1167
E020.1 / L020.1	Encoder cable disconnected	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	0: Coast to stop	Yes	page1167
E020.2	Encoder PPR error	0: Coast to stop	0: Coast to stop	Yes	page1168

Fault code	Fault name	Fault level	Default fault level	Reset	Page
E020.3	No encoder feedback	0: Coast to stop	0: Coast to stop	Yes	page1168
E020.4	The encoder direction is wrong.	0: Coast to stop	0: Coast to stop	Yes	page1169
E020.5 / L020.5	Encoder software detection disconnected	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	0: Coast to stop	Yes	page1169
E020.6	The absolute position of sin-cos encoder is wrong.	0: Coast to stop	0: Coast to stop	Yes	page1170
E020.7	The Z signal is being disturbed.	0: Coast to stop	0: Coast to stop	Yes	page1171
E020.8	Z signal loss	0: Coast to stop	0: Coast to stop	Yes	page1171
E020.9	Encoder pulse interference	0: Coast to stop	0: Coast to stop	Yes	page1172
E021.1	Uninterrupted operation on the EEPROM timeout	0: Coast to stop	0: Coast to stop	Yes	page1172
E021.2	EEPROM read error	0: Coast to stop	0: Coast to stop	Yes	page1173
E021.3	An EEPROM write error occurs.	0: Coast to stop	0: Coast to stop	Yes	page1173
E021.4	The number of write-read operations of the EEPROM exceeds the setpoint within 1s.	0: Coast to stop	0: Coast to stop	Yes	page1174
E021.5 / L021.5	The internal buffer of EEPROM exceeds the limit.	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	0: Coast to stop	Yes	page1174
E022.1	Encoder card not activated	0: Coast to stop	0: Coast to stop	Yes	page1175
E023.1	Drive output short-	0: Coast to stop	0: Coast to stop	Yes	page1175

Fault code	Fault name	Fault level	Default fault level	Reset	Page
	circuited to ground				
E025.1	The rectifier is faulty.	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	0: Coast to stop	Yes	page1176
E026.1	Cumulative operating time reached	0: Coast to stop	0: Coast to stop	Yes	page1176
E027.1	User-defined fault 1	0: Coast to stop	0: Coast to stop	Yes	page1176
E027.2	User-defined fault 2	0: Coast to stop	0: Coast to stop	Yes	page1177
E027.3	User-defined fault 3	0: Coast to stop	0: Coast to stop	Yes	page1177
E027.4	User-defined fault 4	0: Coast to stop	0: Coast to stop	Yes	page1178
E028.1	User-defined alarm 1	0: Coast to stop	0: Coast to stop	Yes	page1178
E028.2	User-defined alarm 2	0: Coast to stop	0: Coast to stop	Yes	page1178
E028.3	User-defined alarm 3	0: Coast to stop	0: Coast to stop	Yes	page1179
E028.4	User-defined alarm 4	0: Coast to stop	0: Coast to stop	Yes	page1179
E029.1	Cumulative power-on time reach	0: Coast to stop	0: Coast to stop	Yes	page1180
E030.1	Load loss	0: Coast to stop	0: Coast to stop	Yes	page1180
E031.1	PID feedback loss during running	0: Coast to stop	0: Coast to stop	Yes	page1180
E031.2 / L031.2	DI terminal disconnected	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	0: Coast to stop	Yes	page1181
E032.1 / L032.1	Parameter reset exception	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	0: Coast to stop	Yes	page1181

Fault code	Fault name	Fault level	Default fault level	Reset	Page
E032.2 / L032.2	Parameter backup exception	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	0: Coast to stop	Yes	page1182
E032.3 / L032.3	Parameter power-off exception	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	6: No action	Yes	page1183
E032.4 / L032.4	Parameters setting error	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	0: Coast to stop	Yes	page1183
E032.6 / L032.6	Parameter power-on check exception	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	6: No action	Yes	page1184
E032.7 / L032.7	Parameter macro setting error	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	0: Coast to stop	Yes	page1184
E040.1	Pulse-by-pulse current	0: Coast to stop	0: Coast to stop	Yes	page1185

Fault code	Fault name	Fault level	Default fault level	Reset	Page
	limit fault				
E042.1 / L042.1	Excessive speed deviation	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	0: Coast to stop	Yes	page1186
E043.1 / L043.1	Motor overspeed	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	0: Coast to stop	Yes	page1187
E045.1	Motor overtemperature	0: Coast to stop	0: Coast to stop	Yes	page1187
E045.2 / L045.2	Motor pre-overtemperature	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	0: Coast to stop	Yes	page1188
E046.1	Load monitoring motor overload fault	0: Coast to stop	0: Coast to stop	Yes	page1189
E046.2	Load monitoring motor overload alarm	1: Coast to stop	0: Coast to stop	Yes	page1189
E046.3	Load monitoring motor load loss fault	2: Coast to stop	0: Coast to stop	Yes	page1189
E046.4	Load monitoring motor load loss alarm	3: Coast to stop	0: Coast to stop	Yes	page1190
E047.2	STO trigger inconsistency fault	4: Coast to stop	0: Coast to stop	Yes	page1190
E047.3	STO power supply fault	5: Coast to stop	0: Coast to stop	Yes	page1190
E047.4	STO input subsystem fault	6: Coast to stop	0: Coast to stop	Yes	page1191
E047.5	STO buffer chip fault	7: Coast to stop	0: Coast to stop	Yes	page1191

Fault code	Fault name	Fault level	Default fault level	Reset	Page
E051.1	Pole position auto-tuning error	8: Coast to stop	0: Coast to stop	Yes	page1192
E055.1 / L055.1	The slave in master-slave control is faulty.	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	1: Stop according to the stop mode	Yes	page1192
E056.2	VI auto-inspection: IGBT U+ short circuit	0: Coast to stop	0: Coast to stop	Yes	page1192
E056.3	VI auto-inspection: IGBT U- short circuit	0: Coast to stop	0: Coast to stop	Yes	page1193
E056.4	VI auto-inspection: IGBT V+ short circuit	0: Coast to stop	0: Coast to stop	Yes	page1193
E056.5	VI auto-inspection: IGBT V- short circuit	0: Coast to stop	0: Coast to stop	Yes	page1193
E056.9	System output phase loss - Auto-inspection	0: Coast to stop	0: Coast to stop	Yes	page1194
E057.1	U phase upper bridge or V phase lower bridge IGBT continuity failure	0: Coast to stop	0: Coast to stop	Yes	page1194
E057.2	U phase lower bridge or V phase upper bridge IGBT continuity failure	0: Coast to stop	0: Coast to stop	Yes	page1195
E057.3	V phase upper bridge or W phase lower bridge IGBT continuity failure	0: Coast to stop	0: Coast to stop	Yes	page1195
E057.4	V phase lower bridge or W phase upper bridge IGBT continuity failure	0: Coast to stop	0: Coast to stop	Yes	page1195
E057.5	W phase upper bridge or U phase lower bridge IGBT continuity failure	0: Coast to stop	0: Coast to stop	Yes	page1196
E057.6	W phase lower bridge or U phase upper bridge IGBT continuity failure	0: Coast to stop	0: Coast to stop	Yes	page1196
E057.7	UV output end short circuit	0: Coast to stop	0: Coast to stop	Yes	page1196

Fault code	Fault name	Fault level	Default fault level	Reset	Page
E057.8	VW output end short circuit	0: Coast to stop	0: Coast to stop	Yes	page1197
E057.9	WU output end short circuit	0: Coast to stop	0: Coast to stop	Yes	page1197
E058.1	Module U phase current sensor inversely installed	0: Coast to stop	0: Coast to stop	Yes	page1198
E058.2	Module V phase current sensor inversely installed	0: Coast to stop	0: Coast to stop	Yes	page1198
E058.3	Module W phase current sensor inversely installed	0: Coast to stop	0: Coast to stop	Yes	page1199
E058.4	Module UV phase sensor incorrectly inserted	0: Coast to stop	0: Coast to stop	Yes	page1199
E058.5	Module VW phase sensor incorrectly inserted	0: Coast to stop	0: Coast to stop	Yes	page1199
E058.6	Module WU phase sensor incorrectly inserted	0: Coast to stop	0: Coast to stop	Yes	page1200
E059.1	VW phase imbalance	0: Coast to stop	0: Coast to stop	Yes	page1200
E059.2	UW phase imbalance	0: Coast to stop	0: Coast to stop	Yes	page1201
E059.3	UV phase imbalance	0: Coast to stop	0: Coast to stop	Yes	page1201
E061.1	Braking transistor overload	0: Coast to stop	0: Coast to stop	Yes	page1201
E062.2	Braking transistor short-circuited	0: Coast to stop	0: Coast to stop	Yes	page1202
E062.3	Braking transistor overcurrent	0: Coast to stop	0: Coast to stop	Yes	page1202
E063.1	External alarm 1	0: Coast to stop	0: Coast to stop	Yes	page1203
E063.2	External alarm 2	0: Coast to stop	0: Coast to stop	Yes	page1203
E064.1 / L064.1	Water-cooling fault	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored	0: Coast to stop	Yes	page1204

Fault code	Fault name	Fault level	Default fault level	Reset	Page
		6: No action			
E066.1 / L066.1	Low-liquid fault	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	0: Coast to stop	Yes	page1204
E067.1	Capacitor leakage occurs.	0: Coast to stop	0: Coast to stop	Yes	page1205
E084.1	The brake cannot be released.	0: Coast to stop	0: Coast to stop	Yes	page1205
E084.2	The brake cannot be closed.	0: Coast to stop	0: Coast to stop	Yes	page1205
E085.4	Timing fault	0: Coast to stop	0: Coast to stop	Yes	page1206
E093.1 / L093.1	Motor stall fault	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	0: Coast to stop	Yes	page1206
E093.2	Motor stall	0: Coast to stop	0: Coast to stop	Yes	page1207
E093.3	Current control exception	0: Coast to stop	0: Coast to stop	Yes	page1208
E094.1	Inconsistency between calculated and set number of pole pairs	0: Coast to stop	0: Coast to stop	Yes	page1208
E094.2	Motor power/voltage/current mismatch	0: Coast to stop	0: Coast to stop	Yes	page1209
E094.3	No-load current range error	0: Coast to stop	0: Coast to stop	Yes	page1209
E094.4	The Lm (mutual inductance) and I0 (no-load current) do not comply with the rated voltage.	0: Coast to stop	0: Coast to stop	Yes	page1209

Fault code	Fault name	Fault level	Default fault level	Reset	Page
E094.5	Rotor resistance setting range exception	0: Coast to stop	0: Coast to stop	Yes	page1210
E094.7	Mismatch between the numbers of pole pairs of the resolver and synchronous motor	0: Coast to stop	0: Coast to stop	Yes	page1210
E159.1	Auto reset failure	6: No action	6: No action	Yes	page1211
E160.1 / L160.1	Modbus communication times out.	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	1: Stop according to the stop mode	Yes	page1211
E161.1 / L161.1	The CANopen heartbeat times out.	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	1: Stop according to the stop mode	Yes	page1212
E161.2 / L161.2	CANopen PDO mapping	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	1: Stop according to the stop mode	Yes	page1212
E162.1 / L162.1	CANlink heartbeat timeout	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	1: Stop according to the stop mode	Yes	page1213
E162.2 / L162.2	CANlink station number conflict	0: Coast to stop 1: Stop based on the	1: Stop according to the stop mode	Yes	page1214

Fault code	Fault name	Fault level	Default fault level	Reset	Page
		stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action			
E164.1 / L164.1	Expansion card fault	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	1: Stop according to the stop mode	Yes	page1214
E174.1 / L174.1	HDI wire breakage	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	6: No action	Yes	page1215
E174.3 / L174.3	AI1 Input exception protection	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	6: No action	Yes	page1216
E174.4 / L174.4	AI2 Input exception protection	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run 3: Limit the power 4: Limit the current 5: Ignored 6: No action	6: No action	Yes	page1216
E174.5 / L174.5	AI3 Input exception protection	0: Coast to stop 1: Stop based on the stop mode 2: Continue to run	6: No action	Yes	page1217

Fault code	Fault name	Fault level	Default fault level	Reset	Page
		3: Limit the power 4: Limit the current 5: Ignored 6: No action			

3 Description of fault codes

E002.1：Hardware overcurrent

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

This fault occurs when the transient current outputted exceeds 2.5 x 1.414 x rated current of the drive.

Troubleshooting:

Cause	Check method	Solution
The output is grounded.	Check whether three-phase output grounding points are available. Detect the impedance to ground with a tramegger.	Replace the device that may cause the grounding problem.
Inter-phase short circuit	1. Check whether short circuit occurs at the output terminals U/V/W. 2. Check whether power cables are short-circuited with a multimeter. 3. Check whether the motor resistance is symmetric with a multimeter.	1. If the power cable is short-circuited, replace the output cable. 2. If the motor resistance is not symmetrical, replace the motor.
Auto-tuning is not performed in the vector control mode.	Check whether parameter auto-tuning has been performed. Set F1-37 to select different types of auto-tuning methods based on the motor type.	Set accurate motor parameters correctly and perform auto-tuning again.
The encoder has been disturbed or disconnected.	1. Confirm whether the encoder wiring is secure; 2. Confirm whether the encoder shield cable is connected to the enclosure of the drive. 3. Check whether the motor enclosure is grounded.	1. Try replacing the encoder and encoder cable. 2. Ensure the motor enclosure is grounded properly.
Phase loss occurs on the output side.	1. Check whether cables are connected correctly. 2. When a contactor is connected to the output end, ensure that the	1. Connect the motor and encoder cables properly. 2. Use the contactor on the output end properly.

	contactor is connected correctly.	
The current detection is abnormal.	1. Check whether FF-03 (AC drive power) matches the AC drive nameplate 2. Restart repeatedly to check whether the fault persists.	1. Set the AC drive model parameters correctly (by modifying the value of FF-01, ensure that the power of FF-03 is consistent with the power of the AC drive nameplate). Note: Group FF is a manufacturer parameter. Incorrect modification may result in product exception. Contact Inovance for technical support. 2. If the AC drive power model is set correctly and the fault persists, contact Inovance technical support.
The acceleration/deceleration time is set to an excessively high setpoint in V/f control mode.	Check whether the acceleration/deceleration time is appropriate. Increase the acceleration/deceleration time parameters F0-17 and F0-18 to test whether the output current decreases.	1. Enable the overcurrent suppression function (F3-19 = 1). 2. Increase the deceleration time properly (F0-17, F0-18).
The encoder phase sequence is wrong.	Change the control mode to V/f or SVC to test whether the encoder feedback frequency is opposite to the set frequency.	If the encoder direction is opposite to the motor operating direction. Change the encoder direction (F1-30).
The AC drive model is set improperly.	Check whether FF-03 (AC drive power) matches the AC drive nameplate.	Set the AC drive model parameters correctly (by modifying the value of FF-01, ensure that the power of FF-03 is consistent with the power of the AC drive nameplate). Note: Group FF is a manufacturer parameter. Incorrect modification may result in product exception. Contact Inovance for technical support.

E002.2：Software overcurrent

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

This fault occurs when the transient current outputted exceeds the overcurrent threshold defined by the software.

Note: FF-18 defines the software overcurrent threshold. The default value 100% deactivate the function. 100% represents full-range current sampling (rated current of the drive x 2.2 x 1.414).

Troubleshooting:

Cause	Check method	Solution
The output is grounded.	Check whether three-phase output grounding points are available. Detect the impedance to ground with a tramegger.	Replace the device that may cause the grounding problem.
Inter-phase short circuit	1. Check whether short circuit occurs at the output terminal. 2. Check whether power cables are short-circuited. 3. Check whether the motor resistance is symmetric.	1. If the power cable is short-circuited, replace the output cable. 2. If the motor resistance is not symmetrical, replace the motor.
Auto-tuning is not performed in the vector control mode.	1. Check whether motor auto-tuning is performed.	Set accurate motor parameters correctly and perform auto-tuning again.
The encoder has been disturbed or disconnected.	1. Confirm whether the encoder wiring is secure; 2. Confirm whether the encoder shield cable is connected to the enclosure of the drive. 3. Check whether the motor enclosure is grounded.	1. Ground the motor enclosure. 2. Try replacing the encoder and encoder cable.
Phase loss on output side	1. Check whether cables are connected correctly. 2. When a contactor is connected to the output end, ensure that the contactor is connected correctly.	1. Connect the motor and encoder cables properly. 2. Use the contactor on the output end properly.
The current detection is abnormal.	1. Check whether the AC drive power FF-03 is set correctly (enter the FF group and check the display value of FF-03, which is the AC drive power). 2. Restart repeatedly to check whether the fault persists.	If the AC drive power model is set correctly and the fault persists, contact Inovance technical support.
The acceleration/deceleration time is set to an excessively high setpoint in V/f control mode.	Check whether the acceleration/deceleration time is appropriate. Increase the acceleration/deceleration time parameters F0-17 and F0-18 to test whether the output current decreases.	1. Enable the overcurrent suppression function (F3-19 = 1). 2. Increase the deceleration time properly (F0-17, F0-18).
The encoder phase sequence is	Change the control mode to V/f or SVC	If the encoder direction is opposite to

wrong.	to test whether the encoder feedback frequency is opposite to the set frequency.	the motor operating direction. Change the encoder direction (F1-30).
The AC drive model is set improperly.	Check whether FF-03 (AC drive power) matches the AC drive nameplate.	Set the AC drive model parameters correctly (by modifying the value of FF-01, ensure that the power of FF-03 is consistent with the power of the AC drive nameplate). Note: Group FF is a manufacturer parameter. Incorrect modification may result in product exception. Contact Inovance for technical support.

E005.1：Bus overvoltage

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The bus voltage exceeds the overvoltage threshold set by A5-09, in V.

Troubleshooting:

Cause	Check method	Solution
The motor decelerates and is in the generating state.	Check whether the motor is in the deceleration phase when overvoltage occurs.	If there is no active load (gravity load or tension load), it is recommended to enable overvoltage suppression. Note: The V/f control overvoltage suppression parameters are F3-23/A3-23/BB-23/CB-23, and the vector control parameters are AB-25/B9-25/BE-25/CE-25/CE-25 (bit 1). The preceding parameters correspond to motor parameters in groups 1, 2, 3, and 4.
The drive stops after runway fault of the synchronous motor.	Check whether the runaway fault occurs on the synchronous motor.	Set F9-67 and F9-68 to set a shorter overspeed protection time to prevent AC drive overvoltage after runaway fault occurs.
The model of the braking resistor is wrong.	1. Determine whether the braking resistor is active in the generating state. 2. When the braking resistor is active,	The power of the braking module cannot be lower than the power of the inverter. The continuous load can be selected based on 0.8 x motor power.

	check whether the bus voltage cannot be suppressed.	The transient overload can be 1.5 x motor power.
Phase loss occurs on the braking resistor.	1. The braking resistor fails. 2. Determine whether the braking resistor is active in the generating state.	Ensure that the braking resistor is connected properly.
Overshoot occurs when the speed is reached in vector control.	Connect the software tool and check whether the feedback speed overshoots through the oscilloscope.	If excessive overshoot occurs on the speed loop. You can configure a circular RFG and acceleration feedforward to improve the speed loop following performance.
V/f oscillation	Check whether the output current oscillates.	1. Enable the oscillation suppression function (F3-12 = 1). 2. Optimize V/f oscillation suppression coefficient (F3-11).
The AC drive model is set improperly.	Check whether the power of the drive (FF-03) matches that indicated on the nameplate of the drive.	Set the model parameters of the drive correctly (ensure that the power value (FF-03) is consistent with that on the nameplate).

E008.1：Frequent contactor action

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

If the relay is closed several times within a short period of time without power-off, the contactor is considered to be faulty frequently.

Troubleshooting:

Cause	Check method	Solution
The soft-start circuit is abnormal, and the soft-start contactor generates noise frequently during operation.	1. Check whether the input power grid or power supply is between 342 VAC and 418 VAC. 2. Check that the input power supply does not power on or off repeatedly.	If soft-start circuit is overloaded upon frequent soft start when the external power supply is normal. Contact the technical support.

E009.1：Undervoltage

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop

Cause:

The bus voltage is lower than the undervoltage threshold set by A5-06 (unit: V).

Troubleshooting:

Cause	Check method	Solution
Instantaneous power failure occurs.	1. Check whether the input power grid or power supply is between 342 VAC and 418 VAC. 2. Check whether there is voltage dip occurs.	If there is no active load (heavy load, tension load), you can enable overvoltage suppression. Note: The undervoltage suppression parameters for V/f control is F9-59/B6-42/BC-57/CC-57. The undervoltage suppression parameters for vector control is AB-25/B9-25/BE-25/CE-25/CE-25 (bit 0). The preceding parameters correspond to motor parameters in groups 1, 2, 3, and 4.
The input voltage of the AC drive is beyond the specified range.	Check whether the input grid voltage or power supply is within the normal range: 342 VAC to 418 VAC.	Adjust the input voltage of the AC drive to the normal range.
Input phase loss occurs and the output power is large.	Check whether phase loss occurs on the input power supply.	Ensure that the input grid voltage is correct.
The undervoltage threshold is set too high.	Check whether A5-06 (undervoltage threshold) is set to an excessively high value. The default value is 350 V.	Lower A5-06 (undervoltage threshold) properly.
The rectifier bridge, driver board, or control board is faulty.	1. Check whether the effective value of the DC bus voltage is about 1.414 x the effective value of the input voltage. 2. On the basis of step 1, check whether the bus voltage on the AC drive is consistent with the bus voltage detected by the multimeter.	1. If step 1 fails, the rectifier bridge may be faulty. In this case, replace the drive. 2. If step 2 fails, the driver board or control board may be faulty. In this case, replace the drive.

E009.3：Pre-drive timeout

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop

Cause:

The bus is not energized within 5s after the drive starts the motor in the undervoltage state.

Troubleshooting:

Cause	Check method	Solution
Pre-charging is abnormal and the drive is started when the bus voltage is excessively low.	Check whether the bus voltage is normal. Note: The bus voltage value is about 1.414 x the effective value of the input voltage.	Start the drive after the bus voltage is stabilized. Check whether the main contactor/grid is normal if power-on is not possible for a long time.

E010.1：The drive is overloaded.

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The drive is considered to be overloaded when the overload time is met based on the overload curve of the drive.

Troubleshooting:

Cause	Check method	Solution
Overload or motor rotor locked	1. Check whether the load (output current) is too heavy during normal operation. 2. When an overload fault occurs, check whether the motor is stalled (the motor does not rotate).	1. Reduce the load and perform testing again. 2. Eliminate the risk of motor stall and perform testing again. If the fault persists, contact Inovance technical support.
The carrier frequency is too high.	Check whether F0-15 (Carrier frequency) is set to a value higher than the default value.	Reduce F0-05 : Carrier frequency).
The bus voltage is low when running at high speed and heavy load.	Pay attention to the bus voltage in heavy-load operation and check whether the deviation between the bus voltage in heavy-load operation and that in the stop state exceeds 60 V.	1. Increase the power grid voltage. 2. Enable the over-modulation function (A5-05 voltage overmodulation coefficient).
Long-term operation below 5 Hz leads to low-frequency derating.	Check whether the motor runs below 5 Hz for a long time.	Do not let the motor run at low speed with heavy load for a long time or increase the power of the drive.
The output is grounded.	Check whether three-phase output grounding points are available. Detect	Replace the device that may cause the grounding problem.

	the impedance to ground with a tramegger.	
Phase loss on output side	1. Check whether cables are connected correctly. 2. When a contactor is connected to the output end, ensure that the contactor is connected correctly.	1. Ensure that cables are connected properly. 2. Use the contactor on the output end properly.
The motor parameters are set incorrectly.	Check whether motor parameters (F1-00 to F1-05) are set properly.	Check whether motor parameters comply with the nameplate. Perform motor auto-tuning again.
The motor is started when the motor rotates.	Check whether the motor is started during motor rotation.	Set F6-00/B6-00/BC-00/CC-00 (Start mode) to flying start. Note: The preceding parameters correspond to motor parameters in groups 1, 2, 3, and 4.
The encoder phase sequence is wrong.	Change the control mode to V/f or SVC, and then check whether the encoder feedback frequency and the set frequency are reversed.	If the encoder direction is opposite to the motor operating direction. Change the encoder direction (F1-30).
The AC drive model is set improperly.	Check whether the power of the drive (FF-03) matches that indicated on the nameplate of the drive.	Set the model parameters of the drive correctly (ensure that the power value (FF-03) is consistent with that on the nameplate).
The drive power rating is too low.	The AC drive power is lower than the motor power.	Replace the AC drive with a higher power rating.

L010.3：The drive is pre-overloaded.

Default fault level： 6: No action　　Reset： Yes

Fault level： 3: Power limited
4: Current limited
5: Ignored
6: No action

Cause:

Pre-overload is reported after the drive overload rate reaches 80%.

Troubleshooting:

Cause	Check method	Solution
Overload or motor rotor locked	1. Check whether the load (output	1. Reduce the load and perform testing

	current) is too heavy during normal operation. 2. When an overload fault occurs, check whether the motor is stalled (the motor does not rotate).	again. 2. Eliminate the risk of motor stall and perform testing again. If the fault persists, contact Inovance technical support.
The carrier frequency is too high.	Check whether F0-15 (Carrier frequency) is set to a value higher than the default value.	Reduce F0-15 (Carrier frequency).
The bus voltage is low when running at high speed and heavy load.	Pay attention to the bus voltage in heavy-load operation and check whether the deviation between the bus voltage in heavy-load operation and that in the stop state exceeds 60 V.	1. Increase the input voltage of the power grid. 2. Enable the over-modulation function (A5-05 voltage overmodulation coefficient).
Long-term operation below 5 Hz leads to low-frequency derating.	Check whether the motor runs below 5 Hz for a long time.	Do not let the motor run at low speed with heavy load for a long time or increase the power of the drive.
The output is grounded.	Check whether three-phase output grounding points are available. Detect the impedance to ground with a tramegger.	Replace the device that may cause the grounding problem.
Phase loss on output side	1. Check whether cables are connected correctly. 2. When a contactor is connected to the output end, ensure that the contactor is connected correctly.	1. Ensure that cables are connected properly. 2. Use the contactor on the output end properly.
The motor parameters are set incorrectly.	Check whether motor parameters (F1-00 to F1-05) are set properly.	Check whether motor parameters comply with the nameplate. Perform motor auto-tuning again.
The motor is started when the motor rotates.	Check whether the motor is started during motor rotation.	Set F6-00/B6-00/BC-00/CC-00 (Start mode) to flying start. Note: The preceding parameters correspond to motor parameters in groups 1, 2, 3, and 4.
The encoder phase sequence is wrong.	Change the control mode to V/f or SVC, and then check whether the encoder feedback frequency and the set frequency are reversed.	If the encoder direction is opposite to the motor operating direction. Change the encoder direction (F1-30).
The AC drive model is set improperly.	Check whether the power of the drive (FF-03) matches that indicated on the nameplate of the drive.	Set the model parameters of the drive correctly (ensure that the power value (FF-03) is consistent with that on the nameplate).
The drive power rating is too low.	The AC drive power is lower than the	Replace the AC drive with a higher

	motor power.	power rating.
Pre-overload is reported after the drive load rate reaches 80%.	Check whether the average output current in steady state is greater than 1.15 x rated current of the AC drive, and the duration reaches 80% of the design time of the AC drive overload curve.	Replace the AC drive with a higher power rating.

E011.1：Motor overload

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The motor is considered to be overloaded when the overload time is met based on the motor overload curve.

Troubleshooting:

Cause	Check method	Solution
F9-01 (Motor overload protection gain) is set to an excessively low value.	Set F9-01 (Motor overload protection gain) to a value lower than 1.0. The default value is 1.0.	Set F9-01 (Motor overload protection gain). It is recommended to set it to 1.0.
The power rating of the motor is too low.	Check whether the average value of the output current (U0-04) in steady state is greater than 1.15 times the rated motor current, and the duration reaches the design time of the motor overload curve.	Replace with a motor of higher power.
The brake is abnormal.	Check whether the brake can be applied normally.	Set the brake logic before operation correctly. For details, see "Brake Control" in the Function Guide.
Overload or motor rotor locked	1. Check whether the load (output current) is too heavy during normal operation. 2. When an overload fault occurs, check whether the motor is stalled (the motor does not rotate).	1. Reduce the load and perform testing again. 2. Eliminate the risk of motor stall and perform testing again. If the fault persists, contact Inovance technical support.

E011.2 / L011.2：Motor pre-overload

Default fault 6: No action　　Reset： Yes

level：

Fault level： 0: Coast to stop

1: Stop based on the stop mode

2: Continue to run

3: Limit the power

4: Limit the current

5: Ignored

6: No action

Cause:

After the motor overload rate reaches F9-02 (Motor overload pre-alarm coefficient, 80% by default), pre-overload occurs.

Troubleshooting:

Cause	Check method	Solution
F9-01 (Motor overload protection gain) is set to an excessively low value.	Set F9-01 (Motor overload protection gain) to a value lower than 1.0. The default value is 1.0.	Set F9-01 (Motor overload protection gain). It is recommended to set it to 1.0.
The power rating of the motor is too low.	Check whether the average value of the output current (U0-04) in steady state is greater than 1.15 x rated motor current, and the duration reaches the design time of the motor overload curve.	Replace with a motor of higher power.
The brake is abnormal.	Check whether the brake can be applied normally.	Set the brake logic before operation correctly. For details, see "Brake Control" in the Function Guide.
Overload or motor rotor locked	1. Check whether the load (output current) is too heavy during normal operation. 2. When an overload fault occurs, check whether the motor is stalled (the motor does not rotate).	1. Reduce the load and perform testing again. 2. Eliminate the risk of motor stall and perform testing again. If the fault persists, contact Inovance technical support.
The pre-overload factor (F9-02) is set improperly.	The pre-overload coefficient (F9-02) is to an excessively low value. The default value is 80%.	You can change the motor pre-overload coefficient F9-02. An alarm will be reported in case of motor pre-overload by default.

E012.1 / L012.1：Input phase loss

Default fault level: 0: Coast to stop

Reset: Yes

Fault level: 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

The input phase loss is considered based on hardware signal detection and the input phase loss signal is valid.

Troubleshooting:

Cause	Check method	Solution
The three-phase input power supply is abnormal.	Check whether the input grid voltage or power supply is between 342 VAC and 418 VAC.	Check and eliminate faults in peripheral circuits.
The three-phase power grid is unbalanced.	Use a voltage detection device to check whether the three-phase grid is unbalanced.	Check the causes of grid imbalance or derating.

E013.1: Phase loss occurred on phase-U output

Default fault level: 0: Coast to stop

Reset: Yes

Fault level: 0: Coast to stop

Cause:

The average value of three-output current is detected when the operating frequency is higher than 0.8 Hz. If the ratio of the max. value to the min. value is higher than 10 and phase U is the min. value, phase loss occurs on phase U.

Troubleshooting:

Cause	Check method	Solution
The motor is faulty.	Check whether motor phase U is disconnected.	Replace the motor.
The cable connecting the AC drive and the motor is abnormal.	Check the drain wires that connect phase U of the drive to the motor are proper.	Rectify external faults.

The three-phase output of the AC drive is unbalanced during motor running.	Check whether the effective values of the three-phase output current of the AC drive are consistent.	Ensure the the motor winding is correct or replace the motor.
The driver board or IGBT is abnormal.	If the AC drive output phase loss fault persists, the driver board and IGBT module are abnormal.	Replace the servo drive.

E013.2：Phase loss occurred on phase-V output

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The average value of three-output current is detected when the operating frequency is higher than 0.8 Hz. If the ratio of the max. value to the min. value is higher than 10 and phase V is the min. value, phase loss occurs on phase V.

Troubleshooting:

Cause	Check method	Solution
The motor is faulty.	Check whether motor phase V is disconnected.	Replace the motor.
The cable connecting the AC drive and the motor is abnormal.	Check the drain wires that connect phase U of the drive to the motor are proper.	Rectify external faults.
The three-phase output of the AC drive is unbalanced during motor running.	Check whether the effective values of the three-phase output current of the AC drive are consistent.	Ensure the the motor winding is correct or replace the motor.
The driver board or IGBT is abnormal.	If the AC drive output phase loss fault persists, the driver board and IGBT module are abnormal.	Replace the servo drive.

E013.3：Phase loss occurred on phase-W output

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The average value of three-output current is detected when the operating frequency is higher than 0.8 Hz. If the ratio of the max. value to the min. value is higher than 10 and phase W is the min. value, phase loss occurs

on phase W.

Troubleshooting:

Cause	Check method	Solution
The motor is faulty.	Check whether motor phase W is disconnected.	Replace the motor.
The cable connecting the AC drive and the motor is abnormal.	Check the drain wires that connect phase U of the drive to the motor are proper.	Rectify external faults.
The three-phase output of the AC drive is unbalanced during motor running.	Check whether the effective values of the three-phase output current of the AC drive are consistent.	Ensure the the motor winding is correct or replace the motor.
The driver board or IGBT is abnormal.	If the AC drive output phase loss fault persists, the driver board and IGBT module are abnormal.	Replace the servo drive.

E014.1：Drive overtemperature

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

If the heatsink temperature exceeds the overtemperature threshold, the drive overtemperature is reported.

Troubleshooting:

Cause	Check method	Solution
The ambient temperature is too high.	1. Check whether the ambient temperature exceeds 40°C. 2. Check whether derating is needed for temperatures between 40°C and 50°C (derate 1.5% for every additional 1°C).	1. Lower the ambient temperature to a value below 40°C. 2. Derating is needed for temperatures between 40°C and 50°C.
The air filter is blocked.	-	Clean the air duct.
The fan is damaged.	Check whether the fan stops running.	Replace the damaged fan.
The IGBT thermistor is damaged.	Stop the drive for more than 1h and check whether the temperature rises or does not fall.	Replace the thermistor.

E014.2：Pre-overtemperature occurs on the drive.

Default fault level: 6: No action Reset: Yes

Fault level: 6: No action

Cause:

The pre-overtemperature point is the overtemperature point minus BF-14. A alarm is reported when IGBT temperature exceeds the pre-overtemperature point.

Troubleshooting:

Cause	Check method	Solution
The ambient temperature is too high.	1. Check whether the ambient temperature exceeds 40°C. 2. Check whether derating is needed for temperatures between 40°C and 50°C (derate 1.5% for every additional 1°C).	1. Lower the ambient temperature to a value below 40°C. 2. Derating is needed for temperatures between 40°C and 50°C.
The air filter is blocked.	-	Clean the air duct.
The fan is damaged.	Check whether the fan stops.	Replace the damaged fan.
The IGBT thermistor is damaged.	Stop the drive for more than 1h and check whether the temperature rises or does not fall.	Replace the thermistor.
The module temperature exceeds the overtemperature threshold.	Check whether the value of BF-14 is to an excessively high value (default: 5°C).	1. Lower the ambient temperature. 2. Reduce the pre-overtemperature margin (BF-14).

E015.1：External fault 1

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop

Cause:

External fault 1 indicates external terminal NO fault. This DI terminal should be normally open, but it is detected to be closed, leading to external fault 1.

Troubleshooting:

Cause	Check method	Solution
Corresponding DI terminal closed	Check the parameter of the DI terminal (group F4) to see which DI is assigned with function 11, and check whether the corresponding physical DI is closed.	Eliminate external faults and ensure that restart (F8-18) is allowed under the mechanical condition for reset.

E015.2：External fault 2

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

External fault 2 indicates external terminal NC fault. This DI terminal should be normally closed, but it is detected to be open, leading to external fault 2.

Troubleshooting:

Cause	Check method	Solution
The corresponding DI terminal is disconnected	Check the parameter of the DI terminal (group F4) to see which DI is set to function 33, and check whether the corresponding physical DI is disconnected.	Eliminate external faults and ensure that restart (F8-18) is allowed under the mechanical condition for reset.

E017.1 / L017.1：The buffer contactor is faulty.

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

The buffer contactor is considered to be faulty when abnormal signals are detected for 1s continuously based on hardware contactor abnormal signal detection.

Troubleshooting:

Cause	Check method	Solution
The driver board and power supply are abnormal.	Check whether the input grid voltage is normal. The input voltage of the three-phase 380 V model ranges from 342 VAC to 418 VAC.	If the mains voltage is normal and the fault persists, replace the AC drive.

	The input voltage of the three-phase 220 V model is within the range of 198 VAC to 235.4 VAC.	
The contactor is abnormal.	-	Replace the contactor.
The surge protector is abnormal.	-	Replace the surge protector.

E018.1：Current detection circuit fault

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

Zero drift is detected only in the undervoltage and stop state. If the zero drift detection value is greater than 10% of the rated current, the current sampling is considered abnormal.

Troubleshooting:

Cause	Check method	Solution
The Hall device is abnormal.	In the stop state, check the three-phase output UVW current and check whether the current fluctuation exceeds 10% of the rated current.	Replace the Hall component or the AC drive.
The synchronous motor is rotating at high speed and the drive is in the stop state.	The synchronous motor is rotating at high speed while the drive is in the stop state.	Bit8 (Zero drift detection) of BF-07 is disabled.

E019.1：Motor parameter auto-tuning times out.

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The auto-tuning process does not end after 300s, leading to auto-tuning timeout fault.

Troubleshooting:

Cause	Check method	Solution
The motor parameters and drive model are set incorrectly.	Check whether the motor parameters (F1-00 to F1-05) and AC drive model parameters (FF-01) are consistent with the nameplate.	Set the motor parameters (F1-00 to F1-05) and the AC drive model parameter (FF-01) correctly according to the motor nameplate and AC drive

		nameplate.

E019.2：Motor parameter auto-tuning interrupted

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The auto-tuning process is interrupted halfway.

Troubleshooting:

Cause	Check method	Solution
Check whether a stop command is sent during auto-tuning, leading to auto-tuning failure.	Check whether auto-tuning is done properly.	Perform motor auto-tuning again. Note: Do not send a stop command before the auto-tuning process is done (the AC drive automatically changes to the stop state after auto-tuning is done).

E019.3：Overcurrent during auto-tuning

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The detected current exceeds the overcurrent threshold.

Troubleshooting:

Cause	Check method	Solution
The current is out of control during auto-tuning.	Check whether the motor parameters (F1-00 to F1-05) and AC drive model parameters (FF-01) are consistent with the nameplate.	Set the motor parameters (F1-00 to F1-05) and the AC drive model parameter (FF-01) correctly according to the motor nameplate and AC drive nameplate.

E019.4：Back EMF auto-tuning exception

Default fault　0: Coast to stop　　Reset： Yes

level：

Fault level： 0: Coast to stop

Cause:

If the back EMF is lower than 0.2 x rated voltage or higher than 1.2 x rated voltage, the back EMF auto-tuning is considered abnormal.

Troubleshooting:

Cause	Check method	Solution
An exception occurs during back EMF auto-tuning.	1. Check whether the motor parameters (F1-00 to F1-05) and AC drive model parameter (FF-01) are consistent with the nameplate. 2. Check whether oscillation occurs during auto-tuning.	1. Set the motor parameters (F1-00 to F1-05) and the AC drive model parameter (FF-01) correctly according to the motor nameplate and AC drive nameplate. 2. Adjust AA-02 (Oscillation suppression) to 3.2 by default. It is recommended to increase by 0.5 each time.

E019.5：Motor type error

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

Check whether the motor type matches according to the auto-tuning mode set. The fault is reported when the motor type does not match.

Troubleshooting:

Cause	Check method	Solution
The synchronous motor and asynchronous motor types are set improperly.	Check whether the motor type defined by F1-00 to the motor type in use.	Set the motor type correctly.

E019.6：The current sampling phase-to-phase gain deviation auto-tuning error occurs.

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The detected current sampling gain deviation between phase U and V/phases V and W is higher than 5%.

Troubleshooting:

Cause	Check method	Solution
Motor not connected to motor error	1. Check whether the motor is connected properly. 2. Use a multimeter to check whether the motor is short-circuited and the resistance of the three-phase winding is unbalanced.	1. Connect motor cables properly. 2. Replace the motor.

E019.7：No-load current auto-tuning overlimit

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

This fault is reported when the no-load current is excessively high or low compared to the rated current.

Troubleshooting:

Cause	Check method	Solution
The no-load current auto-tuned exceeds the normal range.	Check whether motor parameters (F1-00 to F1-05) are set properly.	Set motor parameters and check model parameters according to the motor nameplate.

E020.1 / L020.1：Encoder cable disconnected

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored

6: No action

Cause:

This fault is reported when the hardware disconnection signal is detected to be active.

Troubleshooting:

Cause	Check method	Solution
The encoder hardware feedback signal is abnormal.	1. Check whether the correct PG card is selected. 2. Whether the wiring is correct 3. Check whether the encoder is normal. 4. Check whether the DIP switches of the PG card are proper. 5. Set the encoder parameters correctly.	Replace the PG card or encoder. Note: Faults are reported only in FVC control mode.

E020.2：Encoder PPR error

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

During dynamic auto-tuning, the deviation between the encoder speed measurement value and the target frequency value exceeds 10%.

Troubleshooting:

Cause	Check method	Solution
The encoder feedback speed differs from the actual motor speed.	Check through the V/f or SVC mode whether the speed fed back by the encoder and the actual motor speed are inconsistent.	If inconsistent, set ABZ encoder PPR or the number of resolver pole pairs properly.

E020.3：No encoder feedback

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

This fault is reported when the following conditions are met in the FVC control mode.

1. During dynamic no-load auto-tuning, the encoder feedback frequency is lower than 10% of the target frequency.
2. The encoder feedback frequency is lower than 2% of the rated frequency during dynamic with-load auto-tuning.

Troubleshooting:

Cause	Check method	Solution
There is no speed feedback from the encoder.	1. Check whether the correct PG card is selected. 2. Whether the wiring is correct 3. Check whether the encoder is normal. 4. Check whether the DIP switches of the encoder card are proper. 5. Set the encoder parameters correctly.	Replace the PG card or encoder. Note: Faults are reported only in FVC control mode.

E020.4：The encoder direction is wrong.

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The encoder speed measurement value is opposite to the setpoint.

Troubleshooting:

Cause	Check method	Solution
The encoder direction is opposite to the motor rotation direction.	You can run the motor in V/f or SVC mode (auto-tuned) to determine whether the encoder feedback frequency direction is consistent with the set frequency direction.	Set the encoder direction through F1-30 (Encoder AB phase sequence).

E020.5 / L020.5：Encoder software detection disconnected

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop mode

2: Continue to run

3: Limit the power

4: Limit the current

5: Ignored

6: No action

Cause:

When encoder software disconnection detection is enabled in FVC control, an encoder software disconnection fault is reported when the number of speed measurement errors detected is higher than A9-10.

Troubleshooting:

Cause	Check method	Solution
The encoder feedback speed changes abruptly, which incurs control fluctuation and results in overcurrent.	1. Check whether the correct PG card is selected. 2. Whether the wiring is correct 3. Check whether the encoder is normal. 4. Check whether the DIP switches of the PG card are proper. 5. Set the encoder parameters correctly. 6. Check whether the encoder shield is grounded to the drive end. 7. Check whether the motor enclosure is grounded. 8. Check whether the encoder cable is far away from the power cable or install a magnetic ring to the encoder cable. 9. Select a twisted pair cable with a dense metal mesh shield for the encoder cable. Use the minimum amount of adapter connectors.	1. The software disconnection detection can be enabled through the second bit of A9-09 (Encoder control word). The sudden change threshold of software disconnection detection speed can be set through A9-08 (Encoder disconnection software detection coefficient). You can also set the first bit of A9-09 (removing encoder feedback burrs). 2. If the PG card or encoder is abnormal, replace the PG card or encoder with a new one.

E020.6：The absolute position of sin-cos encoder is wrong.

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The received position data is abnormal during sine-cosine encoder direction auto-tuning.

Troubleshooting:

Cause	Check method	Solution
During dynamic auto-tuning of the synchronous motor, the position data received by the encoder during direction auto-tuning is abnormal.	1. Check whether the encoder can get the angle and frequency normally. 2. Check whether the red indicates on the encoder PG card blinks.	1. Replace the PG card or encoder. 2. Take measures to enhance the shielding or anti-interference performance.

E020.7：The Z signal is being disturbed.

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

It only supports detection in FVC control of the synchronous motor. When the Z signal is reached for five consecutive times, the expected reset angle deviates from the current angle by more than 45°.

Troubleshooting:

Cause	Check method	Solution
Accumulative deviation angle of the Z signal of the ABZ encoder or sine-cosine encoder too large	1. Check whether the encoder shield is grounded properly. 2. Use an oscilloscope to detect whether the encoder output signals are normal.	1. Replace the PG card or encoder. 2. Take measures to enhance the shielding or anti-interference performance.

E020.8：Z signal loss

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

Number of ABZ encoder Z signals detected not matching the actual number

Troubleshooting:

Cause	Check method	Solution
The ABZ encoder Z signal is lost.	1. Check whether the Z signal is connected to the PG card of the encoder.	Connect the Z signal correctly. Note: This fault is reported only when ABZ encoder is used by the synchronous motor in FVC mode

		during automatic inspection.

E020.9：Encoder pulse interference

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

1. For ten consecutive cycles (2 ms), the difference between the encoder feedback frequency adjacent cycles is higher than 2 x threshold value.
2. For four consecutive pulses (2 ms), the difference between the encoder feedback frequency adjacent cycles is higher than 3 x threshold value. The threshold value is the rated frequency.

Troubleshooting:

Cause	Check method	Solution
The encoder feedback fluctuates abnormally.	You can run the motor in V/f or SVC mode to determine whether the encoder feedback frequency fluctuates more than 50% of the rated frequency.	1. Ground the encoder cable shield properly. 2. Replace the encoder.

E021.1：Uninterrupted operation on the EEPROM timeout

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The continuous EEPROM operation time exceeds the threshold defined internally.

Troubleshooting:

Cause	Check method	Solution
An EEPROM read-write exception occurs.	Check whether parameters are operated through communication, and then check whether the RAM address or EEPROM address is operated. Note: For mapping of RAM addresses of each group of parameters, see the section on parameter communication addresses in the user guide.	1. If the write operation is operated frequently through communication, operate on the RAM address of the parameter. 2. If the EEPROM chip is damaged. Contact Inovance to replace the control board.

E021.2：EEPROM read error

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The time for continuous EEPROM read operations exceeds the threshold defined internally.

Troubleshooting:

Cause	Check method	Solution
An EEPROM read-write exception occurs.	Check whether parameters are operated through communication, and then check whether the RAM address or EEPROM address is operated. Note: For mapping of RAM addresses of each group of parameters, see the section on parameter communication addresses in the user guide.	1. When reading the EEPROM address through parameters, do not perform the read operation frequently. 2. If the EEPROM chip is damaged. Contact Inovance to replace the control board.

E021.3：An EEPROM write error occurs.

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The time for continuous EEPROM write operations exceeds the threshold defined internally.

Troubleshooting:

Cause	Check method	Solution
An EEPROM read-write exception occurs.	Check whether parameters are operated through communication, and then check whether the RAM address or EEPROM address is operated. Note: For mapping of RAM addresses of each group of parameters, see the section on parameter communication addresses in the user guide.	1. When writing the EEPROM address through parameters, do not perform the write operation frequently. 2. If the EEPROM chip is damaged. Contact Inovance to replace the control board.

E021.4：The number of write-read operations of the EEPROM exceeds the setpoint within 1s.

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The number of write-read operations on the EEPROM within 1s exceeds the value of F8-58.

Troubleshooting:

Cause	Check method	Solution
An EEPROM read-write exception occurs.	Check whether parameters are operated through communication, and then check whether the RAM address or EEPROM address is operated. Note: For mapping of RAM addresses of each group of parameters, see the section on parameter communication addresses in the user guide.	1. Do not operate the EEPROM address of the parameter for a short time. If necessary, operate on the RAM address of the parameter. 2. If the EEPROM chip is damaged. Contact Inovance to replace the control board.

E021.5 / L021.5：The internal buffer of EEPROM exceeds the limit.

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

EEPROM internal cache exceeds the cache queue length defined internally.

Troubleshooting:

Cause	Check method	Solution
The internal buffer of the EEPROM exceeds the limit.	If parameters are written through communication, check whether the	Contact the technical support to check whether parameters operated through

	write operation is performed frequently.	communication can be saved to EEPROM.

E022.1：Encoder card not activated

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

In the FVC control mode, the encoder speed measurement function is not enabled, that is, the speed measurement function (bit0) of A9-09 is not enabled.

Troubleshooting:

Cause	Check method	Solution
The PG card is not activated in FVC mode.	Check whether A9-09 speed measurement is enabled.	Activate PG card speed measurement and set bit 0 of A9-09 to 1.

E023.1：Drive output short-circuited to ground

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The drive output is short-circuited to ground when the current between the output phase and ground exceeds the designed threshold.

Troubleshooting:

Cause	Check method	Solution
The motor is short-circuited to ground.	Check whether each adapter connector is normal.	Check whether each adapter is normal, and measure the impedance to ground with a megger. Replace the cable or motor if you have to. Note: Do not run the motor before the short circuit fault is rectified.
IGBT short circuit reported during auto-inspection	Perform static auto-inspection repeatedly to check whether the fault persists.	Replace the drive if this fault persists. Note: After the short-circuit-to-ground fault is detected, do not run the motor before rectifying the fault.

E025.1：The rectifier is faulty.

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

The power supply module sends a PL signal to the MD520 control board for a continuous period of time.

Troubleshooting:

Cause	Check method	Solution
The input grid voltage is abnormal.	Check whether the grid voltage is normal.	If the power supply is provided by customers, check whether the power consumption by local grid system is too large.

E026.1：Cumulative operating time reached

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

This fault is reported when the cumulative operating time is greater than or equal to F8-75 + F8-17 x 3600s.

Troubleshooting:

Cause	Check method	Solution
The accumulative running duration reaches the setpoint.	Check whether this condition is met: F7-09 + F7-28 x 3600 ⩾ F8-75 + F8-17 x 3600.	Clear the record through parameter initialization.

E027.1：User-defined fault 1

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop

Cause:

This fault is reported when H2-04 is active.

Troubleshooting:

Cause	Check method	Solution
The signal of an user-defined fault is input through the multi-functional Di/virtual I/O/connector function.	Check whether the value of H2-04 is active.	1. Set H2-04 properly. 2. Eliminate external faults and ensure that restart is allowed under the mechanical condition for reset.

E027.2: User-defined fault 2

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop

Cause:

This fault is reported when H2-05 is active.

Troubleshooting:

Cause	Check method	Solution
The signal of an user-defined fault is input through the multi-functional Di/virtual I/O/connector function.	Check whether the value of H2-05 is active.	1. Set H2-05 properly. 2. Eliminate external faults and ensure that restart is allowed under the mechanical condition for reset.

E027.3: User-defined fault 3

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop

Cause:

This fault is reported when H2-06 is active.

Troubleshooting:

Cause	Check method	Solution
The signal of an user-defined	Check whether the value of H2-06 is	1. Set H2-06 properly.

fault is input through the multi-functional Di/virtual I/O/connector function.	active.	2. Eliminate external faults and ensure that restart is allowed under the mechanical condition for reset.

E027.4：User-defined fault 4

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

This fault is reported when H2-07 is active.

Troubleshooting:

Cause	Check method	Solution
The signal of an user-defined fault is input through the multi-functional Di/virtual I/O/connector function.	Check whether the value of H2-07 is active.	1. Set H2-07 properly. 2. Eliminate external faults and ensure that restart is allowed under the mechanical condition for reset.

E028.1：User-defined alarm 1

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

This alarm is reported when H2-08 is active.

Troubleshooting:

Cause	Check method	Solution
The signal of an user-defined fault is input through the multi-functional Di/virtual I/O/connector function.	Check whether the value of H2-08 is active.	Check whether the value set by H2-08 is valid. You can cancel this alarm by setting H2-08 to 0.

E028.2：User-defined alarm 2

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

This alarm is reported when H2-09 is active.

Troubleshooting:

Cause	Check method	Solution
The signal of an user-defined fault is input through the multi-functional Di/virtual I/O/connector function.	Check whether the value of H2-09 is active.	Check whether the value set by H2-08 is valid. You can cancel this alarm by setting H2-09 to 0.

E028.3：User-defined alarm 3

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

This alarm is reported when the H2-10 function code is active.

Troubleshooting:

Cause	Check method	Solution
The signal of an user-defined fault is input through the multi-functional Di/virtual I/O/connector function.	Check whether the value of H2-10 is active.	Check whether the value set by H2-08 is valid. You can cancel this alarm by setting H2-10 to 0.

E028.4：User-defined alarm 4

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

This alarm is reported when H2-11 is active.

Troubleshooting:

Cause	Check method	Solution
The signal of an user-defined fault is input through the multi-functional Di/virtual	Check whether the value of H2-11 is active.	Check whether the value set by H2-08 is valid. You can cancel this alarm by setting H2-11 to 0.

I/O/connector function.		

E029.1：Cumulative power-on time reach

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

This fault is reported when the accumulative power-on time is greater than or equal to F8-74 + F8-16 x 3600s.

Troubleshooting:

Cause	Check method	Solution
The accumulative power-on duration reaches the setpoint.	Check whether this condition is met: F7-09 + F7-29 x 3600 ⩾ F8-74 + F8-16 x 3600.	Clear the record by parameter initialization (FP-01).

E030.1：Load loss

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

Asynchronous motor: The fault is triggered when the output current is lower than 25% of the no-load current and the synchronous frequency is lower than 90% of the rated frequency in the running state.
Synchronous motor:
This fault is triggered when the output current is lower than the load loss current threshold (10% by default) and the reference current is greater than the rated current or the output voltage is greater than the detection threshold (detection threshold is 50% x (back EMF + 0.25 x rated voltage).

Troubleshooting:

Cause	Check method	Solution
AC drive output phase loss	Check whether the motor cable is disconnected.	Check whether the wiring between the AC drive and the motor is open. If the wiring is correct, contact the AC drive manufacturer.

E031.1：PID feedback loss during running

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop

Cause:

If the PID feedback keeps lower than the value of FA-26 (Detection level of PID feedback loss) after the time defined by FA-27 (Detection time of PID feedback loss) elapses, the AC drive reports this fault.

Troubleshooting:

Cause	Check method	Solution
The PID feedback is lower than that set by FA-26.	Check whether the values in the feedback channel is correct through monitoring the feedback channel of the software tool.	1. Check the PID feedback signal and analyze the system feedback error. 2. Set FA-26 properly.

E031.2 / L031.2: DI terminal disconnected

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

If the corresponding DI terminal of DI function 86 is active, the DI disconnection fault is reported.

Troubleshooting:

Cause	Check method	Solution
The terminal assigned with DI function 86 is active.	Check whether the swing rod touches the limit of the DI terminal or the limit switch of the sensor.	Check whether the corresponding DI terminal hardware set in DI function 86 is active.

E032.1 / L032.1: Parameter reset exception

Default fault 0: Coast to stop Reset: Yes

level：

Fault level： 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

This fault is reported when an abnormal interruption occurs during the reset of FP-01.

Troubleshooting:

Cause	Check method	Solution
A parameter reset exception occurs.	Check whether this fault is reported every time the parameter initialization is performed through FP-01. If yes, the control board is damaged.	Contact the manufacturer to replace the control board.

E032.2 / L032.2：Parameter backup exception

Default fault level： 0: Coast to stop

Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

This fault is reported when parameter backup fails.

Troubleshooting:

Cause	Check method	Solution
A parameter backup exception occurs.	Check whether this fault is reported every time parameter backup is performed. If yes, the control board is	Contact the manufacturer to replace the control board.

	damaged.	

E032.3 / L032.3：Parameter power-off exception

Default fault level: 6: No action

Reset: Yes

Fault level: 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

This fault is reported when parameters failed to be saved to EEPROM.

Troubleshooting:

Cause	Check method	Solution
A parameter power-off exception occurs.	Check whether this fault is reported every time the drive is powered off. If yes, the control board is damaged.	Contact the manufacturer to replace the control board.

E032.4 / L032.4：Parameters setting error

Default fault level: 0: Coast to stop

Reset: Yes

Fault level: 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

1. The "multi-point curve" parameter in the free module is set incorrectly.
2. This fault is reported when the "User Load Curve Parameters" in the auxiliary function is set incorrectly.

Troubleshooting:

Cause	Check method	Solution
A parameter setting exception occurs.	Check whether L7-60 and L7-61 are set to non-zero values.	When L7-60 ≠ 0: Check whether the multi-point curve parameters in group C7 are set properly. When L7-61 ≠ 0: Check whether the curve parameters (F8-82 to F8-96) are set properly.

E032.6 / L032.6：Parameter power-on check exception

Default fault level: 6: No action

Reset: Yes

Fault level: 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

This fault is reported when the parameter value saved by EEPROM is not within the corresponding parameter attribute limit (that is, the value saved by EEPROM is incorrect).

Troubleshooting:

Cause	Check method	Solution
A parameter power-on check exception occurs.	Restore parameters to default and power off and on the drive again to check whether the fault can be cleared.	If the fault persists, contact Inovance technical support.

E032.7 / L032.7：Parameter macro setting error

Default fault level: 0: Coast to stop

Reset: Yes

Fault level: 0: Coast to stop
1: Stop based on the stop mode

2: Continue to run

3: Limit the power

4: Limit the current

5: Ignored

6: No action

Cause:

If two parameter macros are activated at the same time, this fault will be reported.

Troubleshooting:

Cause	Check method	Solution
The AC drive has an active parameter macro already.	Check whether the AC drive has an active parameter macro through FP-18.	Restore parameters to default and reset the new parameter macro through FP-17.

E040.1：Pulse-by-pulse current limit fault

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The wave-by-wave current limit fault is only applied in the V/f control mode of the asynchronous motor. After the current exceeds the wave-by-wave current limit threshold, the fault is reported after the wave-by-wave current limit lasts for 500 ms.

Troubleshooting:

Cause	Check method	Solution
The load is too heavy or Motor stall occurs.	1. Check whether the load (output current) is too large during normal operation. 2. When an overload fault occurs, the motor is stalled (the motor does not rotate).	Reduce the load and check the motor and machinery.
Output short-circuit to ground	Check whether there is output grounding point and check the impedance to ground with a tramegger.	Remove the output grounding point.
Inter-turn short circuit occurs on the motor.	Check whether the resistance on the output ends are symmetric with a multimeter.	Perform auto-tuning to check whether inter-winding short circuit occurs. If yes, replace the motor.
Motor nameplate parameters are	Check whether motor parameters are consistent with those indicated on the	Set motor parameters correctly.

set improperly.	nameplate.	
Output phase loss occurs.	Check for correct cable connection.	Check whether output phase loss occurs.
V/f oscillation	Check whether oscillation occurs on the three-phase output current of the drive.	Set F3-12 to enable V/f oscillation suppression. If the oscillation persists, decrease the oscillation suppression coefficient of F3-11 by 5 every time.
The drive power rating is too low.	The AC drive power is lower than the motor power.	Replace the AC drive with a higher power rating.

E042.1 / L042.1：Excessive speed deviation

Default fault level：0: Coast to stop　　Reset：Yes

Fault level：0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

When the deviation between the actual motor speed and the set frequency is higher than F9-69 (Excessive speed deviation detection value) and such status lasts for the time longer than F9-70, this fault will be reported.

Troubleshooting:

Cause	Check method	Solution
The encoder parameters are set incorrectly.	Set the encoder type and parameters correctly.	Set encoder parameters properly.
Motor auto-tuning is not performed.	Check whether parameter auto-tuning is performed.	Set motor parameters correctly and perform auto-tuning on motor parameters.
The load is too heavy.	Check whether the output current is always equal to the torque upper limit of F2-10.	Ensure the load is in the proper level.
F9-69 and F9-70 are set improperly.	Speed deviation detection parameters F9-69 and F9-70 are set to excessively low values.	Set the detection parameters properly based on actual conditions.

E043.1 / L043.1：Motor overspeed

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

If the deviation between the estimated frequency and the actual output frequency is greater than 15% of the rated frequency, and the judgment time is longer than the threshold, the motor overspeed fault is reported.

Troubleshooting:

Cause	Check method	Solution
The encoder parameters are set incorrectly.	Set the encoder type and parameters correctly.	Set encoder parameters properly.
Motor auto-tuning is not performed.	Check whether parameter auto-tuning is performed.	Set motor parameters correctly and perform auto-tuning on motor parameters.
Runaway occurs due to encoder zero point angle error of synchronous motor.	1. Check whether the encoder is connected reliably. 2. Check whether the encoder mounting angle F1-31 changes by more than 10° during multiple times of auto-tuning.	1. Secure the encoder properly. 2. If the fault persists, replace the encoder.
The motor overspeed detection parameters F9-67 and F9-68 are set improperly.	Check whether speed deviation detection parameters F9-69 and F9-70 are set to excessively low values.	Set the detection parameters properly based on actual conditions.

E045.1：Motor overtemperature

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The motor temperature transmitted through AI is higher than the set motor temperature alarm threshold.

Troubleshooting:

Cause	Check method	Solution
The cable of the temperature sensor becomes loose.	Check the wiring of the temperature sensor.	Perform wiring again.
Motor overtemperature occurs.	Check whether the value of U0-90 is higher than F9-76. Check whether the value of U0-34 is higher than F9-57.	Decrease carrier frequency or take other measures to cool the motor.
The value of F9-57 or F9-76 is excessively low.	Check the values of F9-57 or F9-76.	Increase the motor overtemperature protection threshold F9-57 or F9-76 (90°C to 100°C for regular motors).

E045.2 / L045.2：Motor pre-overtemperature

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

The motor temperature transmitted through AI is higher than the pre-alarm threshold of the motor temperature.

Troubleshooting:

Cause	Check method	Solution
The cable of the temperature sensor becomes loose.	Check the wiring of the temperature sensor.	Perform wiring again.
Motor overtemperature occurs.	Check whether the value of U0-90 is higher than F9-77. Check whether the value of U0-34 is higher than F9-58.	Decrease carrier frequency or take other measures to cool the motor.
F9-58 or F9-77 is set to excessively low values.	Check the values of F9-58 or F9-77.	Increase the motor pre-overtemperature threshold F9-58 or F9-

		77.

E046.1：Load monitoring motor overload fault

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

This fault is reported when the overload threshold of the load curve that set through F8-87...F8-91 is reached and F8-80 (Overload action) is set to "Fault".

Troubleshooting:

Cause	Check method	Solution
Load monitoring parameters are set improperly.	Check whether the load curve overload threshold set in F8-87 to F8-91 are proper.	Set the detection parameters properly based on actual conditions.

E046.2：Load monitoring motor overload alarm

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 1: Coast to stop

Cause:

This fault is reported when the overload threshold of the load curve that set through F8-87...F8-91 is reached and F8-80 is set to "Alarm".

Troubleshooting:

Cause	Check method	Solution
Load monitoring parameters are set improperly.	Check whether load curve overload threshold set through F8-87...F8-91 are proper.	Set the detection parameters properly based on actual conditions.

E046.3：Load monitoring motor load loss fault

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 2: Coast to stop

Cause:

This fault is reported when the load curve load loss threshold that set through F8-92...F8-96 is reached and F8-81 is set to "Fault".

Troubleshooting:

Cause	Check method	Solution
Load monitoring parameters are set improperly.	Check whether load curve overload threshold set through F8-87...F8-91 are proper.	Set the detection parameters properly based on actual conditions.

E046.4：Load monitoring motor load loss alarm

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 3: Coast to stop

Cause:

The load curve load loss threshold that set through F8-92...F8-96 is reached and F8-81 is set to "Alarm".

Troubleshooting:

Cause	Check method	Solution
Load monitoring parameters are set improperly.	Check whether load curve overload threshold set through F8-87...F8-91 are proper.	Set the detection parameters properly based on actual conditions.

E047.2：STO trigger inconsistency fault

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 4: Coast to stop

Cause:

This fault is reported when the hardware detects that STO1 or STO2 has been disconnected.

Troubleshooting:

Cause	Check method	Solution
The STO1 or STO2 signals on the control board terminals is disconnected.	Check the wiring of STO1 and STO2.	Restore the 24 V power supply of STO1 or STO2.

E047.3：STO power supply fault

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 5: Coast to stop

Cause:

This fault is reported when the supply voltage of the STO circuit does not exceed a certain threshold within the specified voltage range.

Troubleshooting:

Cause	Check method	Solution
Undervoltage or overvoltage occurs on the STO circuit.	Restore the 24 V power supply of STO1 and STO2 and power off and on the AC drive again.	If the fault persists and cannot be reset or the STO module is damaged, contact technical support.

E047.4: STO input subsystem fault

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 6: Coast to stop

Cause:

The STO circuit hardware pins are abnormal.

Troubleshooting:

Cause	Check method	Solution
The STO circuit input subsystem is abnormal.	Restore the 24 V power supply of STO1 and STO2 and power off and on the AC drive again.	If the fault persists and cannot be reset or the STO module is damaged, contact technical support.

E047.5: STO buffer chip fault

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 7: Coast to stop

Cause:

The STO circuit hardware pins are abnormal.

Troubleshooting:

Cause	Check method	Solution
The STO blocking output chip is abnormal.	Restore the 24 V power supply of STO1 and STO2 and power off and on the AC	If the fault persists and cannot be reset or the STO module is damaged,

	drive again.	contact technical support.

E051.1：Pole position auto-tuning error

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 8: Coast to stop

Cause:

An error is detected during magnetic pole position auto-tuning.

Troubleshooting:

Cause	Check method	Solution
A pole position auto-tuning error occurs.	Check whether motor parameters (F1-00 to F1-05) are set properly.	Set the motor parameters correctly according to the motor nameplate.

E055.1 / L055.1：The slave in master-slave control is faulty.

Default fault level： 1: Stop according to the stop mode　　Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

When a fault occurs on the slave, the fault signal is transmitted to the master through the CAN bus. The master reports the fault.

Troubleshooting:

Cause	Check method	Solution
The slave is faulty. Check the slave.	Troubleshoot the fault according to the slave fault code.	Troubleshoot the fault according to the slave fault code.

E056.2：VI auto-inspection: IGBT U+ short circuit

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop

Cause:

IGBT-monitored VCE signal error

Troubleshooting:

Cause	Check method	Solution
IGBT-monitored VCE signal error	Power the AC drive off and on again to see if the fault persists.	Contact Inovance for technical support or replace the drive.

E056.3：VI auto-inspection: IGBT U- short circuit

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop

Cause:

IGBT-monitored VCE signal error

Troubleshooting:

Cause	Check method	Solution
IGBT-monitored VCE signal error	Power the AC drive off and on again to see if the fault persists.	Contact Inovance for technical support or replace the drive.

E056.4：VI auto-inspection: IGBT V+ short circuit

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop

Cause:

IGBT-monitored VCE signal error

Troubleshooting:

Cause	Check method	Solution
IGBT-monitored VCE signal error	Power the AC drive off and on again to see if the fault persists.	Contact Inovance for technical support or replace the drive.

E056.5：VI auto-inspection: IGBT V- short circuit

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop

Cause:

IGBT-monitored VCE signal error

Troubleshooting:

Cause	Check method	Solution
IGBT-monitored VCE signal error	Power the AC drive off and on again to see if the fault persists.	Contact Inovance for technical support or replace the drive.

E056.9: System output phase loss - Auto-inspection

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop

Cause:

Motor output phase loss is detected.

Troubleshooting:

Cause	Check method	Solution
Motor output phase loss occurs.	Check whether the cables of the three output phases are connected properly.	Ensure the motor and output contactor are connected properly.

E057.1: U phase upper bridge or V phase lower bridge IGBT continuity failure

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop

Cause:

U+V-IGBT open circuit is detected.

Troubleshooting:

Cause	Check method	Solution
U+/V- IGBT open circuit occurs.	-	Contacting Inovance for technical support.

E057.2：U phase lower bridge or V phase upper bridge IGBT continuity failure

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

U-V+IGBT open circuit is detected.

Troubleshooting:

Cause	Check method	Solution
U-/V+ IGBT open circuit occurs.	-	Contacting Inovance for technical support.

E057.3：V phase upper bridge or W phase lower bridge IGBT continuity failure

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

V+W-IGBT open circuit is detected.

Troubleshooting:

Cause	Check method	Solution
V+/W- IGBT open circuit occurs.	-	Contacting Inovance for technical support.

E057.4：V phase lower bridge or W phase upper bridge IGBT continuity failure

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

V-W+IGBT open circuit is detected.

Troubleshooting:

Cause	Check method	Solution
V-/W+ IGBT open circuit occurs.	-	Contacting Inovance for technical support.

E057.5：W phase upper bridge or U phase lower bridge IGBT continuity failure

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

Open circuit of W+U-IGBT is detected.

Troubleshooting:

Cause	Check method	Solution
W+/U-IGBT open circuit occurs.	-	Contacting Inovance for technical support.

E057.6：W phase lower bridge or U phase upper bridge IGBT continuity failure

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

W-U+IGBT open circuit is detected.

Troubleshooting:

Cause	Check method	Solution
W-/U+ IGBT open circuit occurs.	-	Contacting Inovance for technical support.

E057.7：UV output end short circuit

Default fault　0: Coast to stop　　Reset： Yes

level：

Fault level： 0: Coast to stop

Cause:

Output phase-to-phase short circuit occurs on U/V end.

Troubleshooting:

Cause	Check method	Solution
Output phase-to-phase short circuit occurs.	Check whether short circuit occurs between the output phases when the device is powered off through the multimeter.	1. Replace the cable or motor.

E057.8：VW output end short circuit

Default fault level： 0: Coast to stop Reset： Yes

Fault level： 0: Coast to stop

Cause:

Output phase-to-phase short circuit occurs on the V/W end.

Troubleshooting:

Cause	Check method	Solution
Output phase-to-phase short circuit occurs.	Check whether short circuit occurs between the output phases when the device is powered off through the multimeter.	1. Replace the cable or motor.

E057.9：WU output end short circuit

Default fault level： 0: Coast to stop Reset： Yes

Fault level： 0: Coast to stop

Cause:

Output phase-to-phase short circuit occurs on the W/U end.

Troubleshooting:

Cause	Check method	Solution
Output phase-to-phase short circuit occurs.	Check whether short circuit occurs between the output phases when the	1. Replace the cable or motor.

	device is powered off through the multimeter.	

E058.1：Module U phase current sensor inversely installed

Default fault level： 0: Coast to stop

Reset： Yes

Fault level： 0: Coast to stop

Cause:

Phase U current is reversed.

Troubleshooting:

Cause	Check method	Solution
Current sampling sensor is faulty.	The device is powered on properly. The input voltage of the three-phase 380 V model ranges from 342 VAC to 418 VAC. The input voltage of the three-phase 220 V model is within the range of 198 VAC to 235.4 VAC.	Contact Inovance for technical support.

E058.2：Module V phase current sensor inversely installed

Default fault level： 0: Coast to stop

Reset： Yes

Fault level： 0: Coast to stop

Cause:

Phase V current is reversed.

Troubleshooting:

Cause	Check method	Solution
Current sampling sensor is faulty.	The device is powered on properly. The input voltage of the three-phase 380 V model ranges from 342 VAC to 418 VAC. The input voltage of the three-phase 220 V model is within the range of 198 VAC to 235.4 VAC.	Contact Inovance for technical support.

E058.3：Module W phase current sensor inversely installed

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

Phase W current is reversed.

Troubleshooting:

Cause	Check method	Solution
Current sampling sensor is faulty.	The device is powered on properly. The input voltage of the three-phase 380 V model ranges from 342 VAC to 418 VAC. The input voltage of the three-phase 220 V model is within the range of 198 VAC to 235.4 VAC.	Contact Inovance for technical support.

E058.4：Module UV phase sensor incorrectly inserted

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The UV phase current sampling is abnormal.

Troubleshooting:

Cause	Check method	Solution
Current sampling sensor is faulty.	The device is powered on properly. The input voltage of the three-phase 380 V model ranges from 342 VAC to 418 VAC. The input voltage of the three-phase 220 V model is within the range of 198 VAC to 235.4 VAC.	Contact Inovance for technical support.

E058.5：Module VW phase sensor incorrectly inserted

Default fault　0: Coast to stop　　Reset： Yes

level：

Fault level： 0: Coast to stop

Cause:

The VW phase current sampling is abnormal.

Troubleshooting:

Cause	Check method	Solution
Current sampling sensor is faulty.	The device is powered on properly. The input voltage of the three-phase 380 V model ranges from 342 VAC to 418 VAC. The input voltage of the three-phase 220 V model is within the range of 198 VAC to 235.4 VAC.	Contact Inovance for technical support.

E058.6：Module WU phase sensor incorrectly inserted

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The WU phase current sampling is abnormal.

Troubleshooting:

Cause	Check method	Solution
Current sampling sensor is faulty.	The device is powered on properly. The input voltage of the three-phase 380 V model ranges from 342 VAC to 418 VAC. The input voltage of the three-phase 220 V model is within the range of 198 VAC to 235.4 VAC.	Contact Inovance for technical support.

E059.1：VW phase imbalance

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The UV phase output is unbalanced with the other phase.

Troubleshooting:

Cause	Check method	Solution
VW phase asymmetry occurs.	Check whether phase-to-phase short circuit or motor winding-to-winding short circuit occurs.	Replace the motor.

E059.2：UW phase imbalance

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The VW phase output is unbalanced with the other phase.

Troubleshooting:

Cause	Check method	Solution
UW phase asymmetry occurs.	Check whether phase-to-phase short circuit or motor winding-to-winding short circuit occurs.	Replace the motor.

E059.3：UV phase imbalance

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The WU phase output is unbalanced with the other phase.

Troubleshooting:

Cause	Check method	Solution
UV phase asymmetry occurs.	Check whether phase-to-phase short circuit or motor winding-to-winding short circuit occurs.	Replace the motor.

E061.1：Braking transistor overload

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop

Cause:

Determine whether the braking transistor is overloaded based on the overload curve.

Troubleshooting:

Cause	Check method	Solution
The power of the braking resistor is too high (resistance is too low).	Check whether the braking resistor model is correct. For details, see the section on the braking resistor in the Hardware Guide.	Use a braking resistor of higher resistance.

E062.2: Braking transistor short-circuited

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop

Cause:

This fault is reported when the brake transistor is turned off and the braking transistor current exceeds 0.375 x rated current of the braking transistor for 4s consecutively.

Troubleshooting:

Cause	Check method	Solution
The braking module is abnormal.	Check the bus voltage through the software tool to determine whether the braking voltage is active.	Contact the agent or Inovance for technical support.
The braking resistor is short-circuited.	Use a multimeter to measure the resistance of the braking resistor and check whether it is consistent with the nominal value of the braking resistor. If the deviation is too large, the braking resistor is damaged.	Replace the braking resistor.

E062.3: Braking transistor overcurrent

Default fault level: 0: Coast to stop Reset: Yes

Fault level: 0: Coast to stop

Cause:

The brake transistor is considered to be overcurrent if the brake transistor current exceeds twice the maximum current of the brake transistor.

Troubleshooting:

Cause	Check method	Solution
The braking resistor is connected improperly.	Check whether the braking resistor is connected properly and whether the braking unit operates properly.	Connect the braking resistor properly.

E063.1：External alarm 1

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

This fault is reported when the value set by H2-02 is active.

Troubleshooting:

Cause	Check method	Solution
The external alarm signal that inputted through the connector is active.	Check the connector setting in H2-02.	Check the connector setting in H2-02 or set H2-02 to 0 to cancel this alarm.

E063.2：External alarm 2

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

This fault is reported when the value set by H2-03 is active.

Troubleshooting:

Cause	Check method	Solution
The external alarm signal that inputted through the connector is active.	Check the connector setting in H2-03.	Check the connector setting in H2-03 or set H2-03 to 1 to cancel this alarm.

E064.1 / L064.1：Water-cooling fault

Default fault level：0: Coast to stop　　Reset：Yes

Fault level：0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

This fault is reported when the terminal with DI function No. 66 is active.

Troubleshooting:

Cause	Check method	Solution
The water cooling system control unit is faulty (T13 model fault).	Check whether the terminal of the DI assigned with function 66 is active.	1. Check that the water-cooling system is normal. 2. Reset the fault. 3. Replace the control unit.

E066.1 / L066.1：Low-liquid fault

Default fault level：0: Coast to stop　　Reset：Yes

Fault level：0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

This fault is reported when the terminal assigned with DI function 67 is active.

Troubleshooting:

Cause	Check method	Solution

The tank liquid level is excessively low (T13 model fault).	Check whether the terminal of the DI assigned with function 67 is active.	Add the coolant.

E067.1：Capacitor leakage occurs.

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

This fault is reported when the bus voltage fluctuates beyond the set threshold for a certain period of time.

Troubleshooting:

Cause	Check method	Solution
The bus voltage fluctuates violently due to bus capacitance leakage.	Check whether the capacitor is damaged.	Replace the capacitor.

E084.1：The brake cannot be released.

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The brake release command is generated but there is no feedback signal within the specified time.

Troubleshooting:

Cause	Check method	Solution
1. Check signal feedback point or feedback source wiring, or positive and negative logic. 2. Check whether the set time is reasonable.	1. Check signal feedback point or feedback source wiring, or positive and negative logic. 2. Check whether the set time is reasonable.	1. The feedback contact of the brake is damaged. Replace the sensor. 2. Set A7-04 to a higher value.

E084.2：The brake cannot be closed.

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The brake close command is generated but there is no feedback signal.

Troubleshooting:

Cause	Check method	Solution
1. Check signal feedback point or feedback source wiring, or positive and negative logic. 2. Check whether the set time is reasonable.	1. Check signal feedback point or feedback source wiring, or positive and negative logic. 2. Check whether the set time is proper.	1. The feedback contact of the brake is damaged. Replace the sensor. 2. Set A7-04 to a higher value.

E085.4：Timing fault

Default fault level： 0: Coast to stop

Reset： Yes

Fault level： 0: Coast to stop

Cause:

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Troubleshooting:

Cause	Check method	Solution
A software timing invocation exception occurs.	Power off and on the drive again to check whether the fault can be cleared.	If the fault persists, replace the servo drive.

E093.1 / L093.1：Motor stall fault

Default fault level： 0: Coast to stop

Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

The stall detection threshold is met and the stall detection time is reached.
Note: Set the stall detection threshold through AA-31/B8-31/BC-73/CC-73 and the stall detection time through AA-32/B8-32/BC-74/CC-74. Enable stall protection through AA-30/B8-30/BC-72/CC-72. (Note: The preceding parameters correspond to motor parameters in groups 1, 2, 3, and 4 respectively.)

Troubleshooting:

Cause	Check method	Solution
The motor load is too heavy or the brake is abnormal.	1. Check whether the brake is switched on. 2. Determine whether the output torque is always equal to the torque upper limit F2-10.	Ensure the motor load is within the proper range.
Torque\current limit too low	Check whether the torque upper limit (F2-10) is excessively low.	Set the torque limit properly.
Motor auto-tuning is not performed.	Check whether parameter auto-tuning is performed.	Perform parameter auto-tuning before operation.
The AC drive model is set improperly.	Check whether the AC drive model is set properly.	Set the AC drive model properly.

E093.2：Motor stall

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The step loss detection threshold is met and the step loss detection time is reached.
Note: Set the motor step loss detection threshold through AA-33/B8-33/BC-75/CC-75 and the detection time through AA-34/B8-34/BC-76/CC-76. Enable step loss protection through AA-30. (Note: The preceding parameters correspond to motor parameters in groups 1, 2, 3, and 4 respectively.)

Troubleshooting:

Cause	Check method	Solution
The encoder has been disturbed or disconnected.	Check whether the encoder is being disturbed.	Take anti-interference measures, such as shield, magnetic ring, and grounding of the shield.
The encoder PPR is wrong or the encoder is connected improperly.	Check whether the encoder is connected properly.	Set parameter or secure the encoder properly.
Check whether parameter auto-tuning is performed.	Check whether parameter auto-tuning is performed.	Set rated motor parameters properly and perform dynamic rotary auto-tuning if available.

The AC drive model is wrong.	Check whether the AC drive model is set properly.	Set the drive model correctly.

E093.3：Current control exception

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The current control exception detection threshold is met and the detection time is reached.
Note: Set the current control exception detection threshold through AA-35/B8-35/BC-77/CC-77 and the detection time through AA-36/B8-36/BC-78/CC-78. Enable current control exception error through AA-30. (The preceding parameters correspond to motor parameters in groups 1, 2, 3, and 4.)

Troubleshooting:

Cause	Check method	Solution
Output phase loss occurs.	Check for correct cable connection.	Check whether output phase loss occurs.
The encoder has been disturbed or disconnected.	Check whether the encoder is being disturbed.	Take anti-interference measures, such as shield, magnetic ring, and grounding of the shield.
The bus voltage drops substantially.	Check whether the grid power supply is normal.	Keep the grid voltage stable.

E094.1：Inconsistency between calculated and set number of pole pairs

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

Set A9-02 only when the number of motor pole pairs exceeds 12.

Troubleshooting:

Cause	Check method	Solution
The number of motor pole pairs is set improperly.	Check whether the motor parameters are set correctly.	Set the motor parameter correctly. Note: Set A9-02 only when the number of motor pole pairs exceeds 12.

E094.2：Motor power/voltage/current mismatch

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

If the power factor of the motor parameter is set to a value higher than 1 or lower than 0.5, the fault is reported.

Troubleshooting:

Cause	Check method	Solution
The power, voltage, and current of the motor are not match.	Check whether the motor nameplate parameters are set correctly.	Confirm motor nameplate parameters and set motor rating information and power factors correctly.

E094.3：No-load current range error

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

This fault is reported when the no-load current is excessively high or low compared to the rated current.

Troubleshooting:

Cause	Check method	Solution
Motor no-load current range is wrong.	Check the motor nameplate parameters to ensure the drive model is set properly.	Set the motor nameplate parameters and the drive model properly.

E094.4：The Lm (mutual inductance) and I0 (no-load current) do not comply with the rated voltage.

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

The deviation between the rated flux and the flux calculated based on the rated voltage and frequency

exceeds 10%.

Troubleshooting:

Cause	Check method	Solution
The no-load current or mutual inductance is modified separately or does not comply with the rated voltage.	Confirm motor nameplate parameters.	Set motor nameplate parameter properly and perform parameter auto-tuning.

E094.5：Rotor resistance setting range exception

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

If the rotor resistance is excessively high, the fault is reported.

Troubleshooting:

Cause	Check method	Solution
The rotor resistance exceeds the normal range.	Check whether the motor rotates during auto-tuning. Check whether motor nameplate parameters and AC drive model are set properly.	Set the motor nameplate parameters correctly.

E094.7：Mismatch between the numbers of pole pairs of the resolver and synchronous motor

Default fault level： 0: Coast to stop　　Reset： Yes

Fault level： 0: Coast to stop

Cause:

Check whether the number of resolver pole pairs and motor pole pairs of the synchronous motor do not match.

Troubleshooting:

Cause	Check method	Solution
Number of pole pairs of PMSM incorrect	Check the parameter that used to define the number of resolver pole	Set the number of resolver pole pairs properly.

	pairs.	

E159.1：Auto reset failure

Default fault level： 6: No action

Reset： Yes

Fault level： 6: No action

Cause:

This fault is reported when the black list parameters set by the H2-20 to H2-39 are reset by the "Auto Fault Reset" function.

Troubleshooting:

Cause	Check method	Solution
Auto reset is disabled.	Check whether faults that cannot be reset are set in the black list of H2-20...H2-39.	Remove parameters in the black list of H2-20...H2-39.

E160.1 / L160.1：Modbus communication times out.

Default fault level： 1: Stop according to the stop mode

Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

No data is received after communication is established.

Troubleshooting:

Cause	Check method	Solution
Modbus communication timeout	1. Check whether the RS485 communication cable is correctly connected. 2. Check whether Fd-04 (Communication timeout) is proper	1. Ensure that the 485 communication cable is connected properly. 2. Set Fd-04 (Communication timeout) properly (Fd-04 = 2 x number of bytes sent x 10/(1/Fd-00).

	(Fd-04 = 2 x Number of bytes sent x 10/ (1/Fd-00).	

E161.1 / L161.1：The CANopen heartbeat times out.

Default fault level： 1: Stop according to the stop mode

Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

The heartbeat frame is not received after the CANopen heartbeat configuration is set.

Troubleshooting:

Cause	Check method	Solution
CANopen communication timeout	1. Check whether the CAN communication cable is correctly connected. 2. Check whether the values of FD-15 to FD-17 are continuously increasing. If yes, it indicates interference exists.	1. Ensure that the CAN communication cable is connected correctly. 2. Eliminate interference by taking the following measures: ① Eliminate other interference sources, such as other devices. ② Connect the drive to the grounding cable. ③ Do not route the signal cable together with the power cable (do not twist the signal cable and power cable into a strand). ④ Do not cross-connect the power cable and signal cable.

E161.2 / L161.2：CANopen PDO mapping

Default fault level： 1: Stop according to the stop mode

Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

The PDO configuration information does not match the setting of the AC drive parameter.

Troubleshooting:

Cause	Check method	Solution
The PDO mapping configured by CANopen is inconsistent with the actual communication mapping.	1. Check whether the version of the communication configuration file (.eds format) is correct. 2. The parameters in group AF are consistent with the description in the eds file.	1. Ensure that the communication configuration file (.eds format) is of the correct version. 2. Ensure that the parameters in group AF are consistent with the description in the eds file.

E162.1 / L162.1：CANlink heartbeat timeout

Default fault level： 1: Stop according to the stop mode

Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

The heartbeat times out after heartbeat is configured.

Troubleshooting:

Cause	Check method	Solution
CANlink heartbeat timeout	1. Check whether the CAN communication cable is correctly connected.	1. Ensure that the CAN communication cable is connected correctly. 2. Eliminate interference by taking the

	2. Check whether the values of FD-15 to FD-17 are continuously increasing. If yes, it indicates interference exists.	following measures: ① Eliminate other interference sources, such as other devices. ② Connect the drive to the grounding cable. ③ Do not route the signal cable together with the power cable (do not twist the signal cable and power cable into a strand). ④ Do not cross-connect the power cable and signal cable.

E162.2 / L162.2：CANlink station number conflict

Default fault level： 1: Stop according to the stop mode

Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

The same station number exists.

Troubleshooting:

Cause	Check method	Solution
CANlink station number conflict	Read the value of Fd-02 to make comparison.	Modify the repeated CAN station numbers through Fd-02.

E164.1 / L164.1：Expansion card fault

Default fault level： 1: Stop according to the stop mode

Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop

mode

2: Continue to run

3: Limit the power

4: Limit the current

5: Ignored

6: No action

Cause:

Expansion card fault

Troubleshooting:

Cause	Check method	Solution
The expansion card and the drive are in poor contact.	Check whether the expansion card is connected properly to the drive.	Check whether the expansion card is connected to the machine.

E174.1 / L174.1：HDI wire breakage

Default fault level：6: No action　　Reset：Yes

Fault level：0: Coast to stop

1: Stop based on the stop mode

2: Continue to run

3: Limit the power

4: Limit the current

5: Ignored

6: No action

Cause:

This fault is reported when the pulse frequency detected by DI5 ⩽ F4-28 or lower than half of the setpoint set by F4-28 or F4-66.

Troubleshooting:

Cause	Check method	Solution
HDI input disconnected	Check whether HDI input is disconnected.	Perform wiring again.
The HDI input signal frequency is excessively low, which is much lower than the minimum value set in F4-28 or F4-66.	Check whether the HDI input signal is normal.	Ensure the min. input frequency of HDI is the frequency lower limit of the signal.

E174.3 / L174.3：AI1 Input exception protection

Default fault level: 6: No action

Reset: Yes

Fault level: 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

This fault is reported when the voltage input of AI1 port is outside the range of the lower limit (F8-45) - upper limit (F8-46).
Note: This fault is not enabled by default.

Troubleshooting:

Cause	Check method	Solution
AI1 input signal disconnected	Check whether AI1 input signal is disconnected.	Perform wiring again.
AI1 input signal voltage or current is outside the range of the lower limit (F8-45) – upper limit (F8-46).	Check whether the AI1 input signal voltage or current is normal.	Ensure the upper limit and lower limit for input voltage (current) protection is not exceeded.

E174.4 / L174.4：AI2 Input exception protection

Default fault level: 6: No action

Reset: Yes

Fault level: 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

This fault is reported when the voltage input of AI2 port is outside the range of the lower limit (A6-52) – upper limit (A6-51).
Note: This fault is not enabled by default.

Troubleshooting:

Cause	Check method	Solution
AI2 input signal disconnected	Check whether AI2 input signal is disconnected.	Perform wiring again.
The AI2 input signal voltage or current is outside the range of A6-52 – A6-51.	Check whether the AI2 input signal voltage or current is normal.	Ensure the upper limit and lower limit for input voltage (current) protection is not exceeded.

E174.5 / L174.5：AI3 Input exception protection

Default fault level： 6: No action　　Reset： Yes

Fault level： 0: Coast to stop
1: Stop based on the stop mode
2: Continue to run
3: Limit the power
4: Limit the current
5: Ignored
6: No action

Cause:

This fault is reported when the voltage input of AI3 port is outside the range of the lower limit (A6-58) – upper limit (A6-57).
Note: This fault is not enabled by default.

Troubleshooting:

Cause	Check method	Solution
AI3 input signal disconnected	Check whether AI3 input signal is disconnected.	Perform wiring again.
The AI3 input signal voltage or current is outside the range of A6-58 – A6-57.	Check whether the AI3 input signal voltage or current is normal.	Ensure the upper limit and lower limit for input voltage (current) protection is not exceeded.

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