

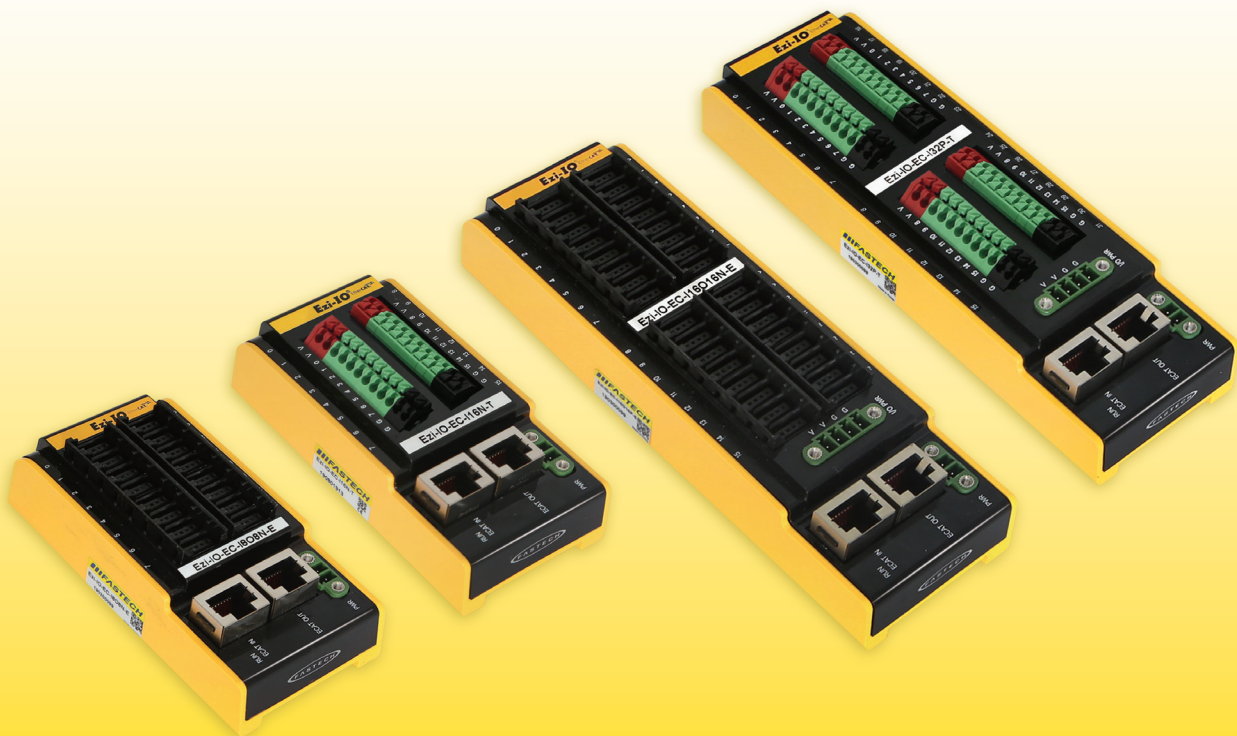
Ezi-IO[®]

Input/Output Module

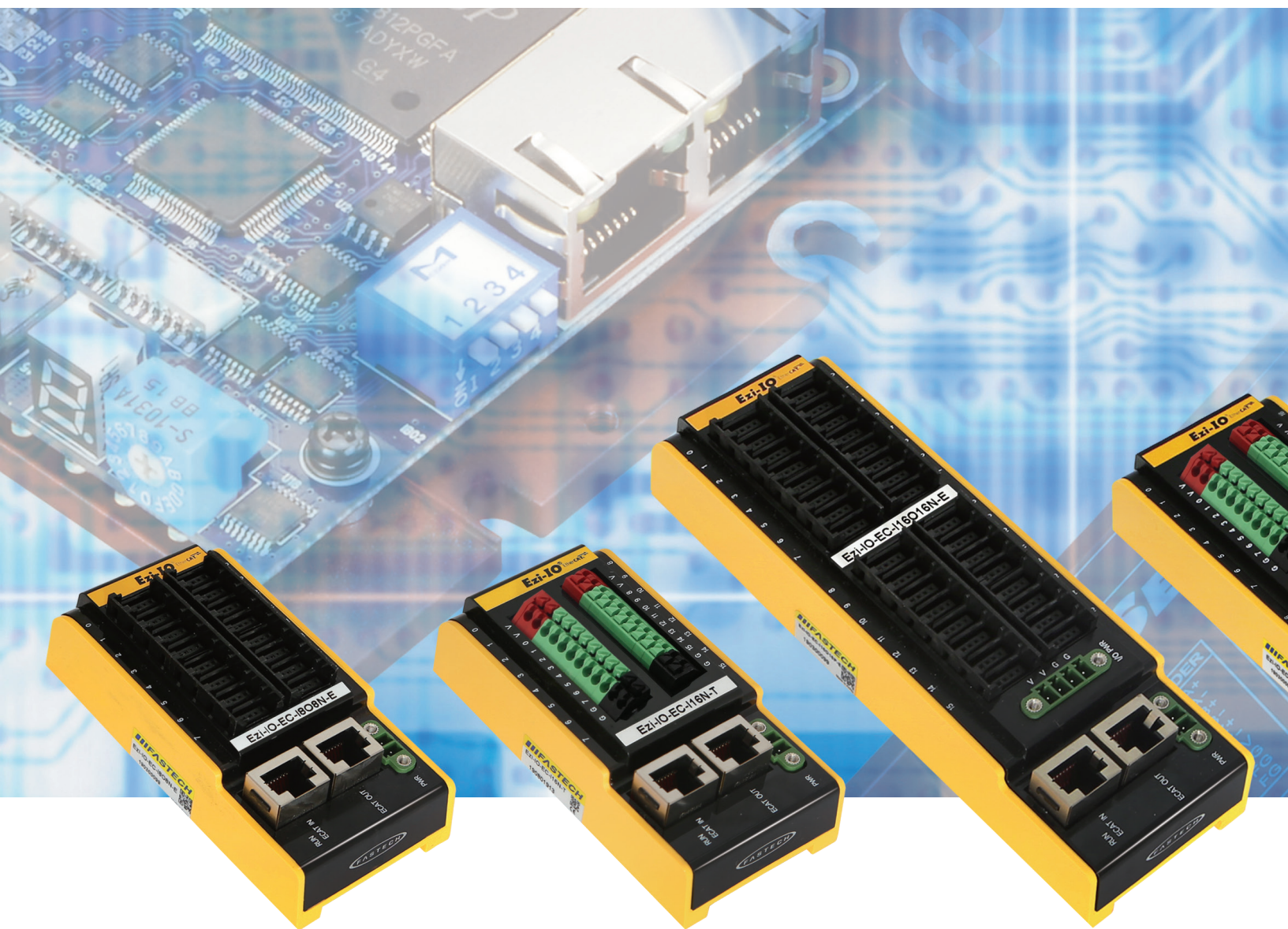
- EtherCAT Based Digital I/O Module
- All EtherCAT Synchronization Modes Supported
- CiA 401 Profile Supported
- Simple and Easy Wiring

EtherCAT[®]

DIO



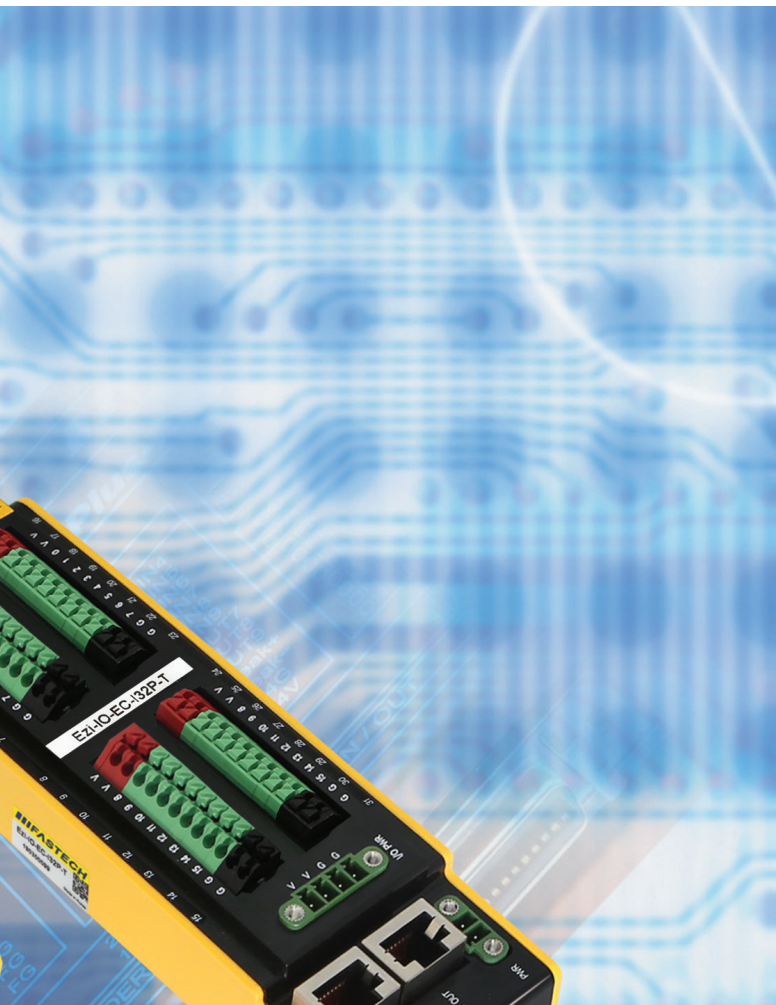
Fast, Accurate, Smooth Motion



Fast, Accurate, Smooth Motion

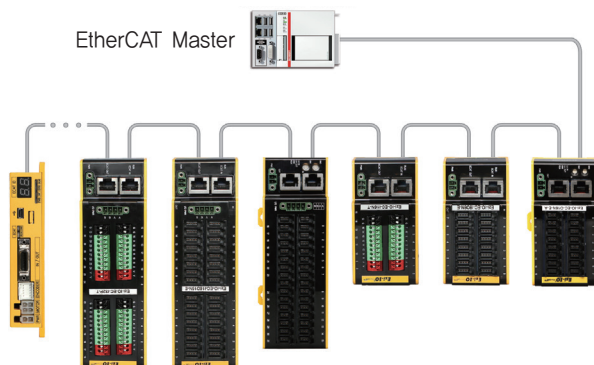
Ezi-IO[®]
Input/Output Module

Ether**CAT**[®]
DIO



1 EtherCAT Based Digital I/O Module

Ezi-IO EtherCAT DIO is a digital I/O module which supports EtherCAT, a fieldbus based on high speed Ethernet (100Mbps, Full-Duplex). Ezi-IO EtherCAT DIO is an EtherCAT Slave module which supports CoE(-CAN Application layer over EtherCAT). It supports CiA 401 profile, and can be connected to the EtherCAT master without topology limitation.



2 Simple and Easy Wiring

Ezi-IO EtherCAT DIO provides e-CON connector type and push-in terminal block type products, so you can select them according to the needs.

The e-CON connector is widely used in the sensor connector industry, and the push-in type terminal block can be easily connected to various devices using ferrule terminals, making the wiring much simpler and easier.

3 EtherCAT Synchronization Modes

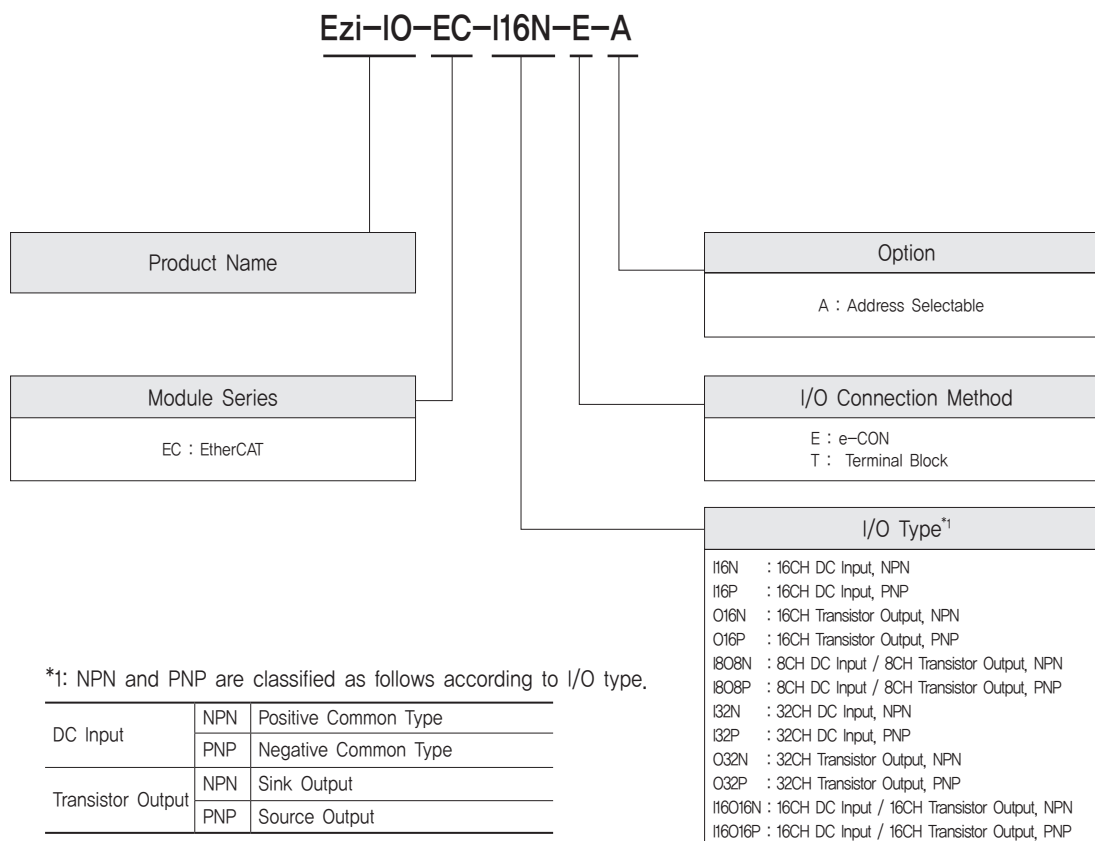
Ezi-IO EtherCAT DIO supports all EtherCAT synchronization modes. You can select from Free Run, SM Event, DC SYNC Event synchronization mode according to the purpose of use. (Only for Option A Type)

4 Various I/O module

Ezi-IO EtherCAT DIO provides 16CH and 32CH modules. There are 16CH DC input module, 16CH transistor output module, and 8CH DC input/8CH transistor output mixed module for 16CH type products.

In addition, there are 32CH DC input module, 32CH transistor output module, 16CH DC input/16CH transistor output mixed module for 32CH type products. Also, Ezi-IO EtherCAT DIO provides NPN/PNP compatible modules to support various I/O devices.

● Ezi-IO EtherCAT DIO Part Numbering



● Ezi-IO EtherCAT DIO Part Number

Part Number	Remarks
Ezi-IO-EC-I16N-E	16CH e-CON Type
Ezi-IO-EC-I16P-E	
Ezi-IO-EC-O16N-E	
Ezi-IO-EC-O16P-E	
Ezi-IO-EC-I808N-E	
Ezi-IO-EC-I808P-E	
Ezi-IO-EC-I16N-T	16CH Terminal Block Type
Ezi-IO-EC-I16P-T	
Ezi-IO-EC-O16N-T	
Ezi-IO-EC-O16P-T	
Ezi-IO-EC-I808N-T	
Ezi-IO-EC-I808P-T	
Ezi-IO-EC-I16N-E-A	16CH Option A Type (e-CON Type only)
Ezi-IO-EC-I16P-E-A	
Ezi-IO-EC-O16N-E-A	
Ezi-IO-EC-O16P-E-A	
Ezi-IO-EC-I808N-E-A	
Ezi-IO-EC-I808P-E-A	

Part Number	Remarks
Ezi-IO-EC-I32N-E	32CH e-CON Type
Ezi-IO-EC-I32P-E	
Ezi-IO-EC-O32N-E	
Ezi-IO-EC-O32P-E	
Ezi-IO-EC-I16O16N-E	
Ezi-IO-EC-I16O16P-E	
Ezi-IO-EC-I32N-T	32CH Terminal Block Type
Ezi-IO-EC-I32P-T	
Ezi-IO-EC-O32N-T	
Ezi-IO-EC-O32P-T	
Ezi-IO-EC-I16O16N-T	
Ezi-IO-EC-I16O16P-T	
Ezi-IO-EC-I32N-E-A	32CH Option A Type (e-CON Type only)
Ezi-IO-EC-I32P-E-A	
Ezi-IO-EC-O32N-E-A	
Ezi-IO-EC-O32P-E-A	
Ezi-IO-EC-I16O16N-E-A	
Ezi-IO-EC-I16O16P-E-A	

● Specifications of Module

Model			Ezi-IO-EC-I16□-■	Ezi-IO-EC-O16□-■	Ezi-IO-EC-I808□-■
Input Voltage			DC24V±10%		
Current Consumption			Max, 150mA (Except load current)		
Operating Condition	Ambient Temperature		· In Use: 0~50℃ · In Storage: -20~70℃		
	Humidity		· In Use: 35~85% RH (Non-Condensing) · In Storage: 10~90% RH (Non-Condensing)		
	Vib, Resist.		0.5g		
Function	Input	Number of Input Channels	16CH	-	8CH
		Rated Input Voltage	DC24V		DC24V
		Rated Input Current	5mA/CH		5mA/CH
		Isolation Method	None		None
		Common Method	16CH/COM		8CH/COM
		Off→On Response Time	10μs or lower		10μs or lower
		On→Off Response Time	70μs or lower		70μs or lower
	Output	Number of Output Channels	-	16CH	8CH
		Rated Output Voltage		DC24V	DC24V
		Rated Output Current		0.2A/CH	0.2A/CH
		Isolation Method		None	None
		Common Method		16CH/COM	8CH/COM
		Off→On Response Time		4μs or lower	4μs or lower
		On→Off Response Time		140μs or lower	140μs or lower
LED Display		· Power Status(PWR) · EtherCAT Status(RUN) · EtherCAT Connection(ECAT IN, ECAT OUT) · I/O Status(0~15)		· Power Status(PWR) · EtherCAT Status(RUN) · EtherCAT Connection (ECAT IN, ECAT OUT) · I/O Status(0~7/0~7)	
EtherCAT	Synchronization		Free RUN, SM Event		
	Bus Interface		2×RJ45 Connector		
	Cable		STP (Shielded Twisted Pair) Cable, Category 5e or higher / Max, 100m		

* □: NPN / PNP Type
 ■: e-CON / Terminal Block Type

● Specifications of Module

Model		Ezi-IO-EC-I16□-E-A	Ezi-IO-EC-O16□-E-A	Ezi-IO-EC-I808□-E-A
Input Voltage		DC24V±10%		
Current Consumption		Max, 200mA (Except load current)		
Operating Condition	Ambient Temperature	・ In Use: 0~50℃ ・ In Storage: -20~70℃		
	Humidity	・ In Use: 35~85% RH (Non-Condensing) ・ In Storage: 10~90% RH (Non-Condensing)		
	Vib, Resist.	0.5g		
Function	Input	Number of Input Channels	16CH	8CH
		Rated Input Voltage	DC24V	DC24V
		Rated Input Current	5mA/CH	5mA/CH
		Isolation Method	None	None
		Common Method	16CH/COM	8CH/COM
		Input Filter	Max, 40ms (Filter Resolution : 200μs)	Max, 40ms (Filter Resolution : 200μs)
		Off→On Response Time	30μs or lower	30μs or lower
		On→Off Response Time	90μs or lower	90μs or lower
	Output	Number of Output Channels	16CH	8CH
		Rated Output Voltage	DC24V	DC24V
		Rated Output Current	0.5A/CH (3A/COM)	0.5A/CH (2A/COM)
		Isolation Method	None	None
		Common Method	16CH/COM	8CH/COM
		Off→On Response Time	20μs or lower	20μs or lower
		On→Off Response Time	180μs or lower	180μs or lower
	LED Display		・ Power Status(PWR) ・ EtherCAT Status(RUN) ・ Operation Error(ERR) ・ EtherCAT Connection(LA IN, LA OUT) ・ I/O Status(0~15)	・ Power Status(PWR) ・ EtherCAT Status(RUN) ・ Operation Error(ERR) ・ EtherCAT Connection (LA IN, LA OUT) ・ I/O Status(0~7/0~7)
EtherCAT	Protocol	CoE (CiA 401 I/O Profile), FoE (Firmware Download)		
	Synchronization	Free Run, SM Event, DC SYNC Event		
	Bus Interface	2×RJ45 Connector		
	Cable	STP (Shielded Twisted Pair) Cable, Category 5e or higher / Max, 100m		

* □: NPN / PNP Type

● Specifications of Module

Model			Ezi-IO-EC-I32□-■	Ezi-IO-EC-O32□-■	Ezi-IO-EC-I16O16□-■
Input Voltage			DC24V±10%		
Current Consumption			・ Control Power : Max, 140mA ・ I/O Power : Max, 110mA (Except Load Current)	・ Control Power : Max, 200mA ・ I/O Power : Max, 70mA (Except Load Current)	・ Control Power : Max, 170mA ・ I/O Power : Max, 90mA (Except Load Current)
Operating Condition	Ambient Temperature		・ In Use: 0~50℃ ・ In Storage: -20~70℃		
	Humidity		・ In Use: 35~85% RH (Non-Condensing) ・ In Storage: 10~90% RH (Non-Condensing)		
	Vib. Resist.		0.5g		
Function	Input	Number of Input Channels	32CH	-	16CH
		Rated Input Voltage	DC24V		DC24V
		Rated Input Current	5mA/CH		5mA/CH
		Isolation Method	Photocoupler Isolation		Photocoupler Isolation
		Common Method	16CH/COM		16CH/COM
		Off→On Response Time	10μs or lower		10μs or lower
		On→Off Response Time	70μs or lower		70μs or lower
	Output	Number of Output Channels	-	32CH	16CH
		Rated Output Voltage		DC24V	DC24V
		Rated Output Current		0.2A/CH	0.2A/CH
		Isolation Method		Photocoupler Isolation	Photocoupler Isolation
		Common Method		16CH/COM	16CH/COM
		Off→On Response Time		4μs or lower	4μs or lower
		On→Off Response Time		140μs or lower	140μs or lower
LED Display			・ Power Status(PWR) ・ EtherCAT Status(RUN) ・ EtherCAT Connection(ECAT IN, ECAT OUT) ・ I/O Status(0~31)		・ Power Status(PWR) ・ EtherCAT Status(RUN) ・ EtherCAT Connection (ECAT IN, ECAT OUT) (ECAT IN, ECAT OUT) ・ I/O Status(0~15/0~15)
EtherCAT	Synchronization		Free RUN, SM Event		
	Bus Interface		2×RJ45 Connector		
	Cable		STP (Shielded Twisted Pair) Cable, Category 5e or higher / Max, 100m		

* □: NPN / PNP Type

■: e-CON / Terminal Block Type

● Specifications of Module

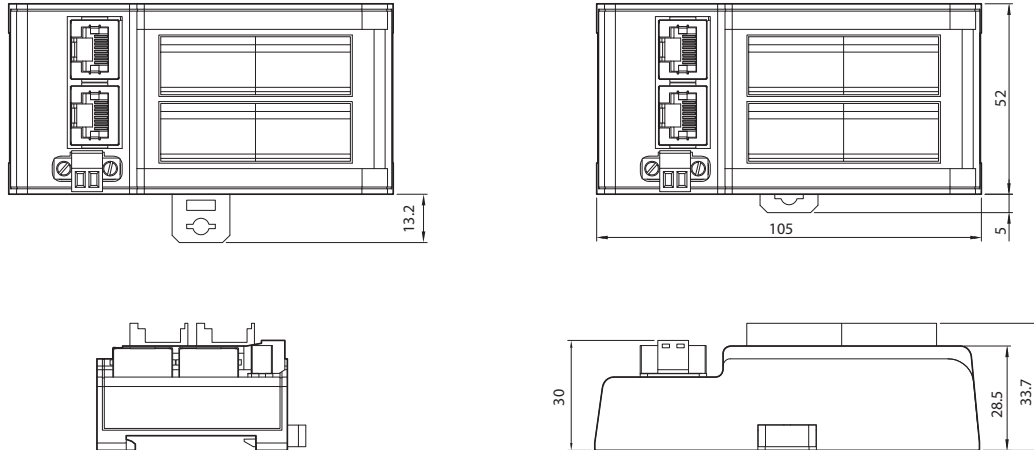
Model			Ezi-IO-EC-I32□-E-A	Ezi-IO-EC-O32□-E-A	Ezi-IO-EC-I16O16□-E-A
Input Voltage			DC24V±10%		
Current Consumption			<div>· Control Power : Max, 180mA</div> <div>· I/O Power : Max, 110mA (Except Load Current)</div>	<div>· Control Power : Max, 240mA</div> <div>· I/O Power : Max, 70mA (Except Load Current)</div>	<div>· Control Power : Max, 220mA</div> <div>· I/O Power : Max, 90mA (Except Load Current)</div>
Operating Condition	Ambient Temperature		<div>· In Use: 0~50℃</div> <div>· In Storage: -20~70℃</div>		
	Humidity		<div>· In Use: 35~85% RH (Non-Condensing)</div> <div>· In Storage: 10~90% RH (Non-Condensing)</div>		
	Vib, Resist,		0,5g		
Function	Input	Number of Input Channels	32CH	-	16CH
		Rated Input Voltage	DC24V		DC24V
		Rated Input Current	5mA/CH		5mA/CH
		Isolation Method	Photocoupler Isolation		Photocoupler Isolation
		Common Method	16CH/COM		16CH/COM
		Input Filter	Max, 40ms (Filter Resolution : 200μs)		Max, 40ms (Filter Resolution : 200μs)
		Off→On Response Time	30μs or lower		30μs or lower
		On→Off Response Time	90μs or lower		90μs or lower
	Output	Number of Output Channels	-	32CH	16CH
		Rated Output Voltage		DC24V	DC24V
		Rated Output Current		0,5A/CH (3A/COM)	0,5A/CH (3A/COM)
		Isolation Method		Photocoupler Isolation	Photocoupler Isolation
		Common Method		16CH/COM	16CH/COM
		Off→On Response Time		20μs or lower	20μs or lower
		On→Off Response Time		180μs or lower	180μs or lower
		LED Display			<div>· Power Status(PWR)</div> <div>· EtherCAT Status(RUN)</div> <div>· Operation Error(ERR)</div> <div>· EtherCAT Connection(LA IN, LA OUT)</div> <div>· I/O Status(0~31)</div>
EtherCAT	Protocol	CoE (CiA 401 I/O Profile), FoE (Firmware Download)			
	Synchronization	Free Run, SM Event, DC SYNC Event			
	Bus Interface	2×RJ45 Connector			
	Cable	STP (Shielded Twisted Pair) Cable, Category 5e or higher / Max, 100m			

* □: NPN / PNP Type

● Dimensions of Module [mm]

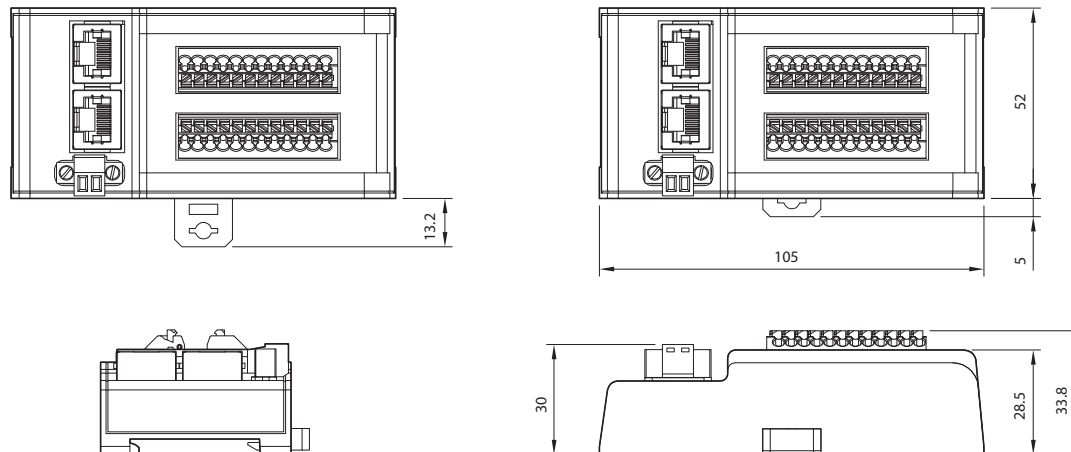
◆ 16CH e-CON Type

– Model : Ezi-IO-EC-I16□-E, Ezi-IO-EC-O16□-E, Ezi-IO-EC-I808□-E



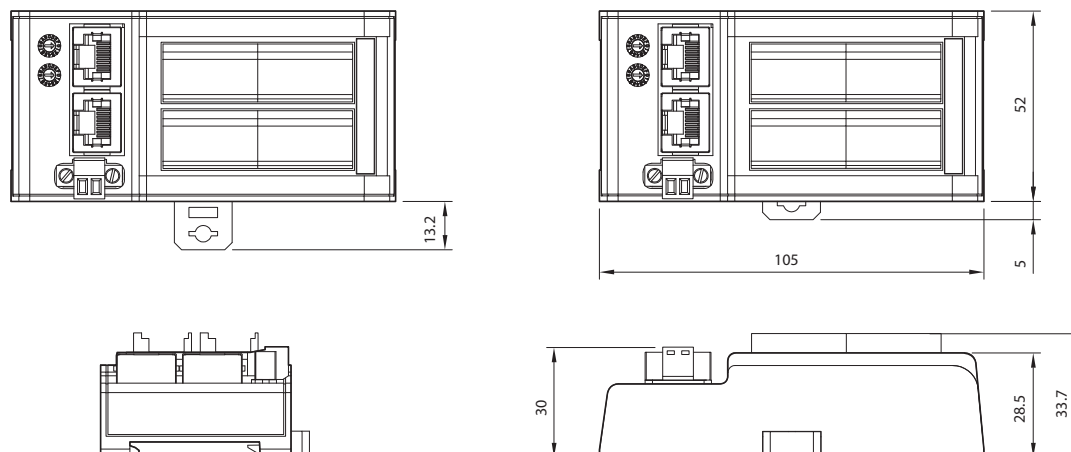
◆ 16CH Terminal Block Type

– Model : Ezi-IO-EC-I16□-T, Ezi-IO-EC-O16□-T, Ezi-IO-EC-I808□-T



◆ 16CH Option A Type

– Model : Ezi-IO-EC-I16□-E-A, Ezi-IO-EC-O16□-E-A, Ezi-IO-EC-I808□-E-A



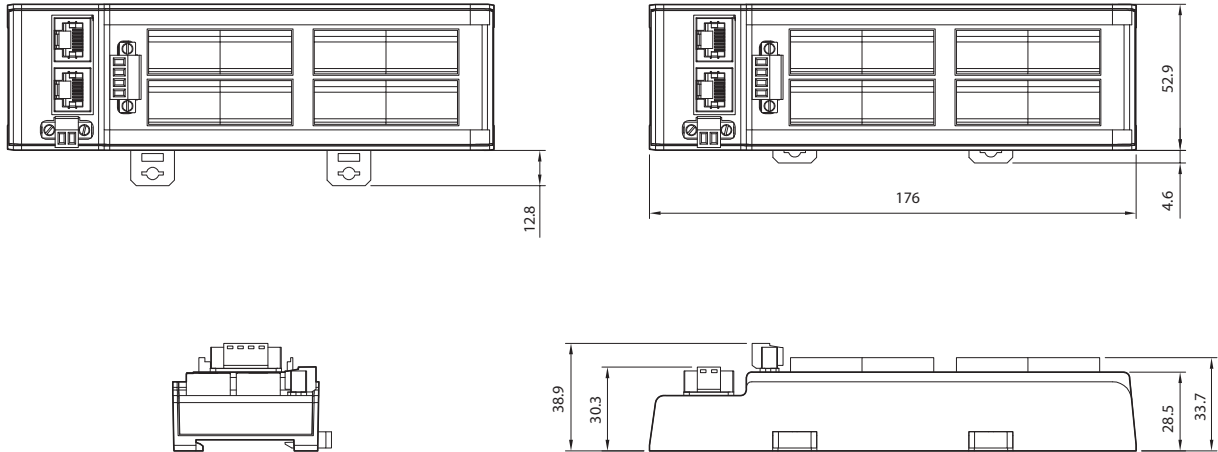
* □ : NPN / PNP Type

* Install the product on a din rail with a width of 35 mm.

● Dimensions of Module [mm]

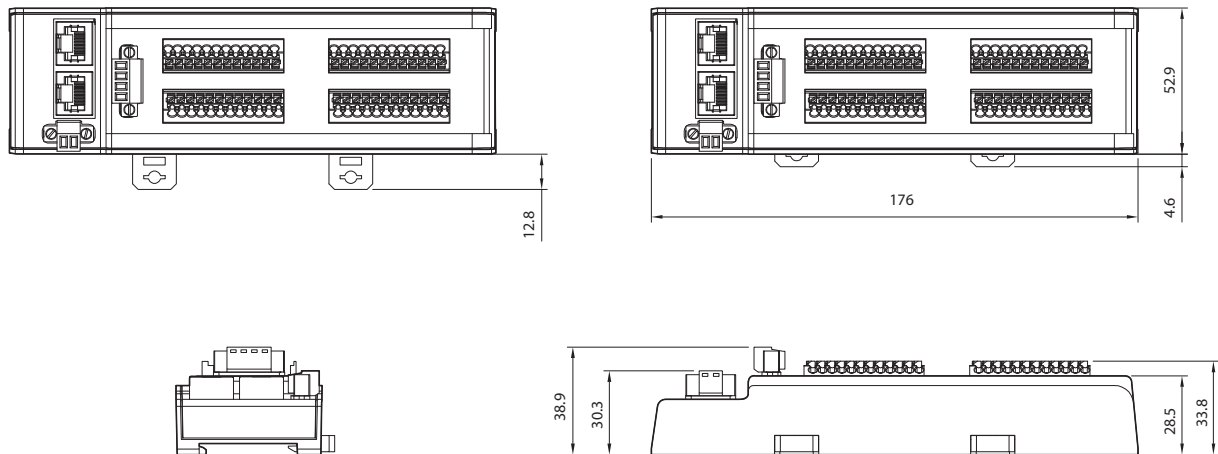
◆ 32CH e-CON Type

– Model : Ezi-IO-EC-I32□-E, Ezi-IO-EC-O32□-E, Ezi-IO-EC-I16016□-E



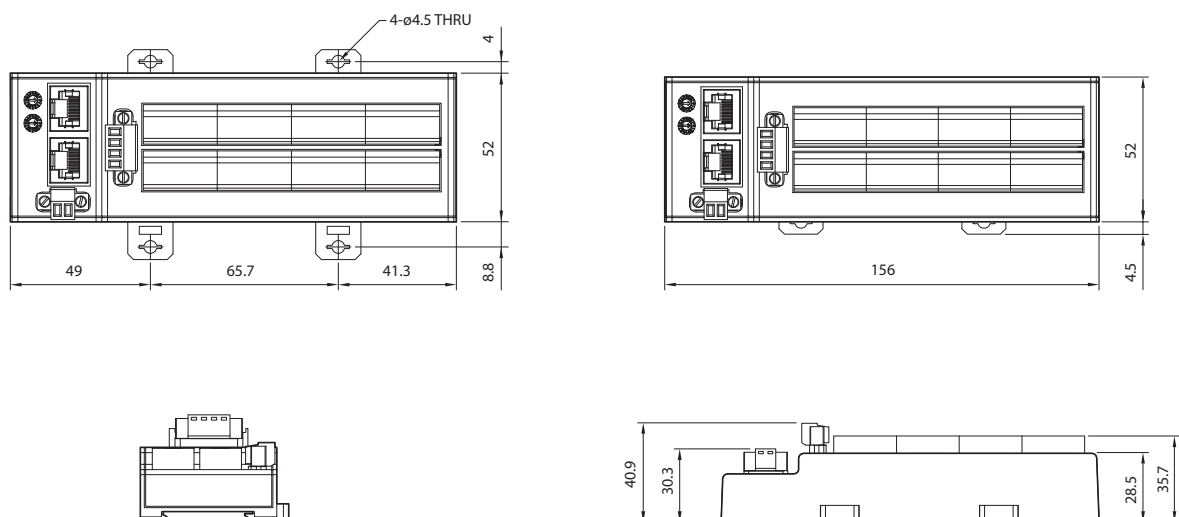
◆ 32CH Terminal Block Type

– Model : Ezi-IO-EC-I32□-T, Ezi-IO-EC-O32□-T, Ezi-IO-EC-I16016□-T



◆ 32CH Option A Type

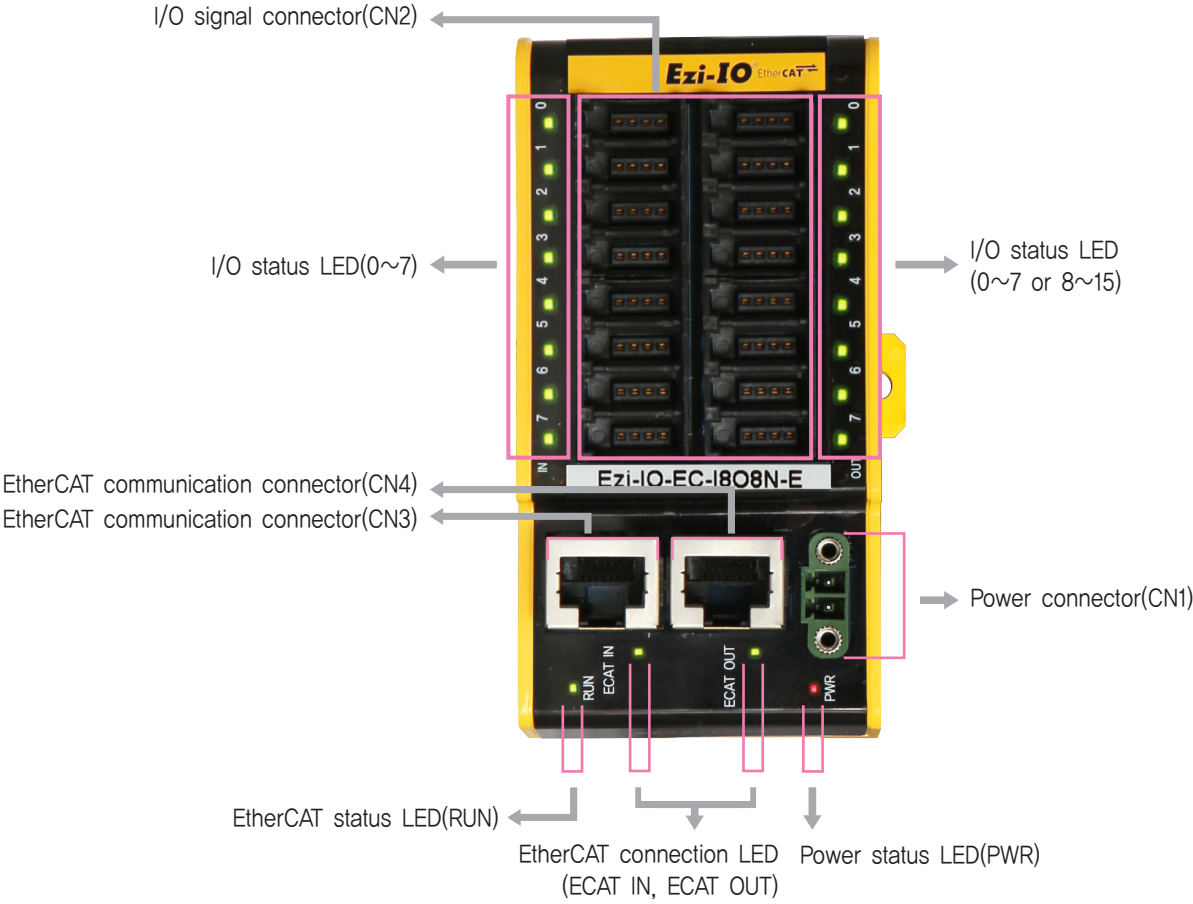
– Model : Ezi-IO-EC-I32□-E-A, Ezi-IO-EC-O32□-E-A, Ezi-IO-EC-I16016□-E-A



* □ : NPN / PNP Type

* Install the product on a din rail with a width of 35 mm.

● Settings and Operation [16CH e-CON Type]



1. Status LED

● Power Status LED

Name	Color	Status	Description
PWR	Red	OFF	Power is OFF
		ON	Power is ON

● EtherCAT Status LED

Name	Color	Status	Description
RUN	Green	OFF	State INIT or Power OFF
		Blinking	State PRE-OPERATIONAL
		Single Flash	State SAFE-OPERATIONAL
		ON	State OPERATIONAL
		Flickering	State BOOTSTRAP

● EtherCAT Connection LED

Name	Color	Status	Description
ECAT IN / ECAT OUT	Green	OFF	Link not Established
		ON	Link Established
		Flickering	Link Established and in Operation

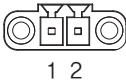
● I/O Status LED

Name*	Color	Status	Description
0~15 0~7 / 0~7	Green	OFF	Input Module : Input is OFF Output Module : Output is OFF
		ON	Input Module : Input is ON Output Module : Output is ON

* For Ezi-IO-EC-I808N-E and Ezi-IO-EC-I808P-E modules, the name is written as 0~7 / 0~7 .

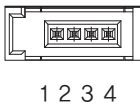
2. Power Connector(CN1)

No.	Function	I/O
1	DC24V	Input
2	GND	Input



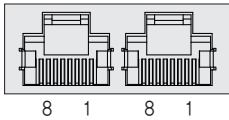
3. I/O Signal Connector(CN2)

No.	Function	I/O
1	DC24V	Output
2	NC	----
3	GND	Output
4	SIGNAL	I/O

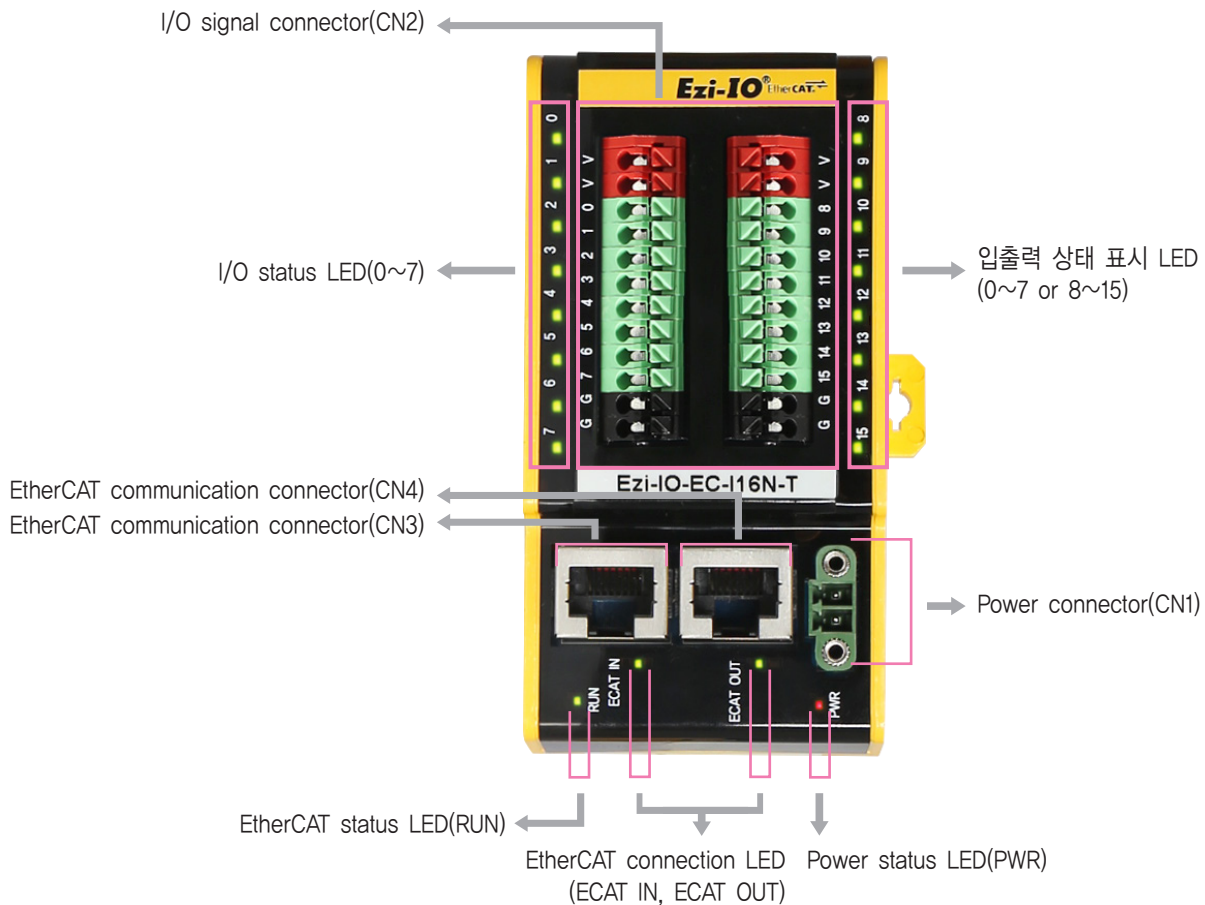


4. EtherCAT Communication Connection(CN3, CN4)

No.	Function
1	TD+
2	TD-
3	RD+
4	----
5	----
6	RD-
7	----
8	----
Connector Hood	F.GND



● Settings and Operation [16CH Terminal Block Type]



1. Status LED

● Power Status LED

Name	Color	Status	Description
PWR	Red	OFF	Power is OFF
		ON	Power is ON

● EtherCAT Status LED

Name	Color	Status	Description
RUN	Green	OFF	State INIT or Power OFF
		Blinking	State PRE-OPERATIONAL
		Single Flash	State SAFE-OPERATIONAL
		ON	State OPERATIONAL
		Flickering	State BOOTSTRAP

● EtherCAT Connection LED

Name	Color	Status	Description
ECAT IN / ECAT OUT	Green	OFF	Link not Established
		ON	Link Established
		Flickering	Link Established and in Operation

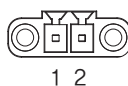
• I/O Status LED

Name*	Color	Status	Description
0~15 0~7 / 0~7	Green	OFF	Input Module : Input is OFF Output Module : Output is OFF
		ON	Input Module : Input is ON Output Module : Output is ON

* For Ezi-IO-EC-I808N-T and Ezi-IO-EC-I808P-T modules, the name is written as 0~7 / 0~7 .

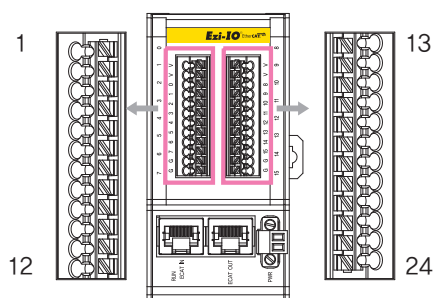
2. Power Connector(CN1)

No.	Function	I/O
1	DC24V	Input
2	GND	Input



3. I/O Signal Connector(CN2)

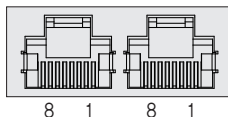
No.	Name*	Function	I/O
1	V	DC24V	Output
2	V	DC24V	Output
3	0	SIGNAL	I/O
4	1	SIGNAL	I/O
5	2	SIGNAL	I/O
6	3	SIGNAL	I/O
7	4	SIGNAL	I/O
8	5	SIGNAL	I/O
9	6	SIGNAL	I/O
10	7	SIGNAL	I/O
11	G	GND	Output
12	G	GND	Output
13	V	DC24V	Output
14	V	DC24V	Output
15	8(0)	SIGNAL	I/O
16	9(1)	SIGNAL	I/O
17	10(2)	SIGNAL	I/O
18	11(3)	SIGNAL	I/O
19	12(4)	SIGNAL	I/O
20	13(5)	SIGNAL	I/O
21	14(6)	SIGNAL	I/O
22	15(7)	SIGNAL	I/O
23	G	GND	Output
24	G	GND	Output



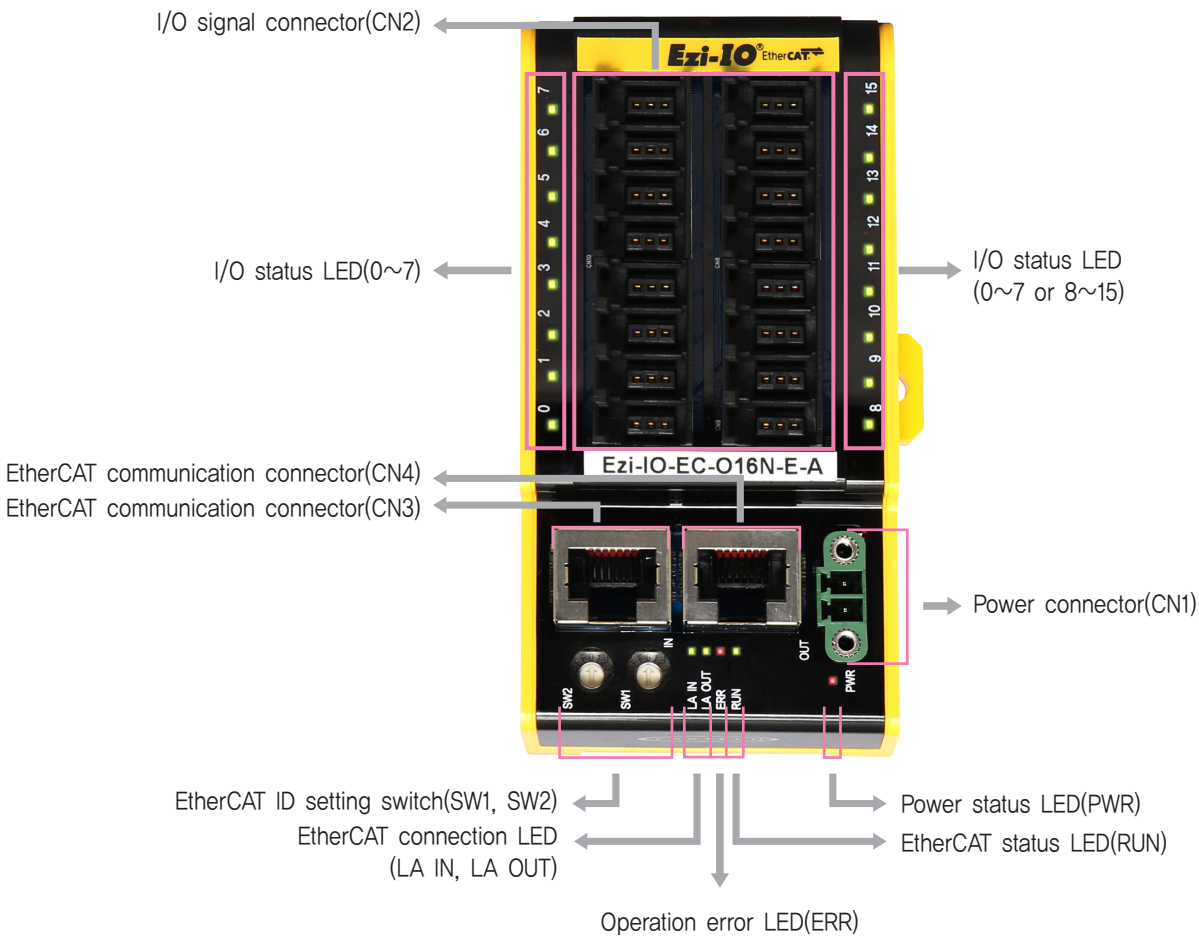
* For Ezi-IO-EC-I808N-T and Ezi-IO-EC-I808P-T modules, the name is written as 0~7 / 0~7 .

4. EtherCAT Communication Connection(CN3, CN4)

No.	Function
1	TD+
2	TD-
3	RD+
4	----
5	----
6	RD-
7	----
8	----
Connector Hood	F.GND

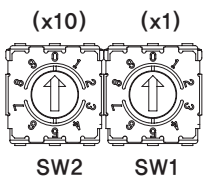


● Settings and Operation [16CH Option A Type]



1. Switch Setting

- EtherCAT ID Setting Switch (SW1, SW2)



They are switches to set the EtherCAT ID (ECAT Device ID) node address, and they represent a decimal number. SW1 indicates the units digit (×1), and SW2 indicates the tens digit (×10).

2. Status LED

- Power Status LED

Name	Color	Status	Description
PWR	Red	OFF	Power is OFF
		ON	Power is ON

• EtherCAT Status LED

Name	Color	Status	Description
RUN	Green	OFF	State INIT or Power OFF
		Blinking	State PRE-OPERATIONAL
		Single Flash	State SAFE-OPERATIONAL
		ON	State OPERATIONAL
		Flickering	State BOOTSTRAP

• Operation Error LED

Name	Color	Status	Description
ERR	Red	OFF	No Error or Power OFF
		Blinking	Invalid Configuration
		Single Flash	Local Error
		Double Flash	Watchdog Time Out

• EtherCAT Connection LED

Name	Color	Status	Description
LA IN / LA OUT	Green	OFF	Link not Established
		ON	Link Established
		Flickering	Link Established and in Operation

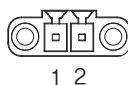
• I/O Status LED

Name*	Color	Status	Description
0~15 0~7 / 0~7	Green	OFF	Input Module : Input is OFF Output Module : Output is OFF
		ON	Input Module : Input is ON Output Module : Output is ON

* For Ezi-I/O-EC-I808N-E-A and Ezi-I/O-EC-I808P-E-A modules, the name is written as 0~7 / 0~7 .

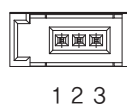
3. Power Connector(CN1)

No.	Function	I/O
1	DC24V	Input
2	GND	Input



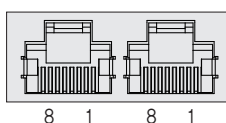
4. I/O Signal Connector(CN2)

No.	Function	I/O
1	DC24V	Output
2	SIGNAL	I/O
3	GND	Output

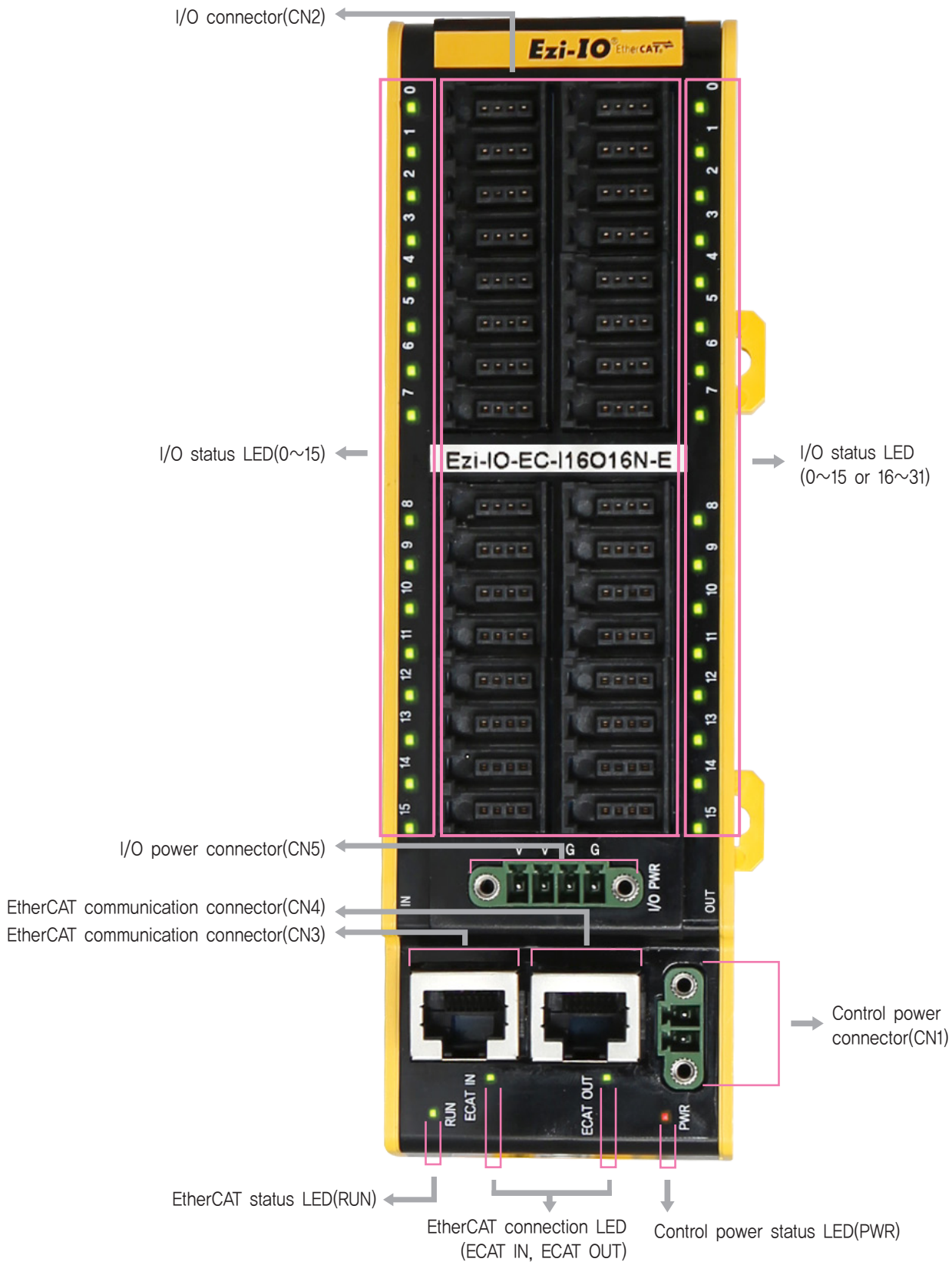


5. EtherCAT Communication Connection(CN3, CN4)

No.	Function
1	TD+
2	TD-
3	RD+
4	----
5	----
6	RD-
7	----
8	----
Connector Hood	F.GND



● Settings and Operation [32CH e-CON Type]



1. Status LED

• Power Status LED

Name	Color	Status	Description
PWR	Red	OFF	Power is OFF
		ON	Power is ON

• EtherCAT Status LED

Name	Color	Status	Description
RUN	Green	OFF	State INIT or Power OFF
		Blinking	State PRE-OPERATIONAL
		Single Flash	State SAFE-OPERATIONAL
		ON	State OPERATIONAL
		Flickering	State BOOTSTRAP

• EtherCAT Connection LED

Name	Color	Status	Description
ECAT IN / ECAT OUT	Green	OFF	Link not Established
		ON	Link Established
		Flickering	Link Established and in Operation

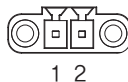
• I/O Status LED

Name*	Color	Status	Description
0~31 0~15 / 0~15	Green	OFF	Input Module : Input is OFF Output Module : Output is OFF
		ON	Input Module : Input is ON Output Module : Output is ON

* For Ezi-I/O-EC-I16016N-E and Ezi-I/O-EC-I16016P-E modules, the name is written as 0~15 / 0~15 .

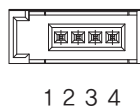
2. Control Power Connector (CN1)

No.	Function	I/O
1	DC24V	Input
2	GND	Input



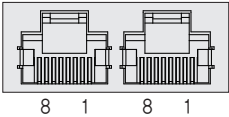
3. I/O Signal Connector(CN2)

No.	Function	I/O
1	EXT_DC24V	Output
2	NC	----
3	EXT_GND	Output
4	SIGNAL	I/O



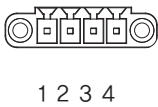
4. EtherCAT Communication Connection(CN3, CN4)

No.	Function
1	TD+
2	TD-
3	RD+
4	----
5	----
6	RD-
7	----
8	----
Connector Hood	F,GND

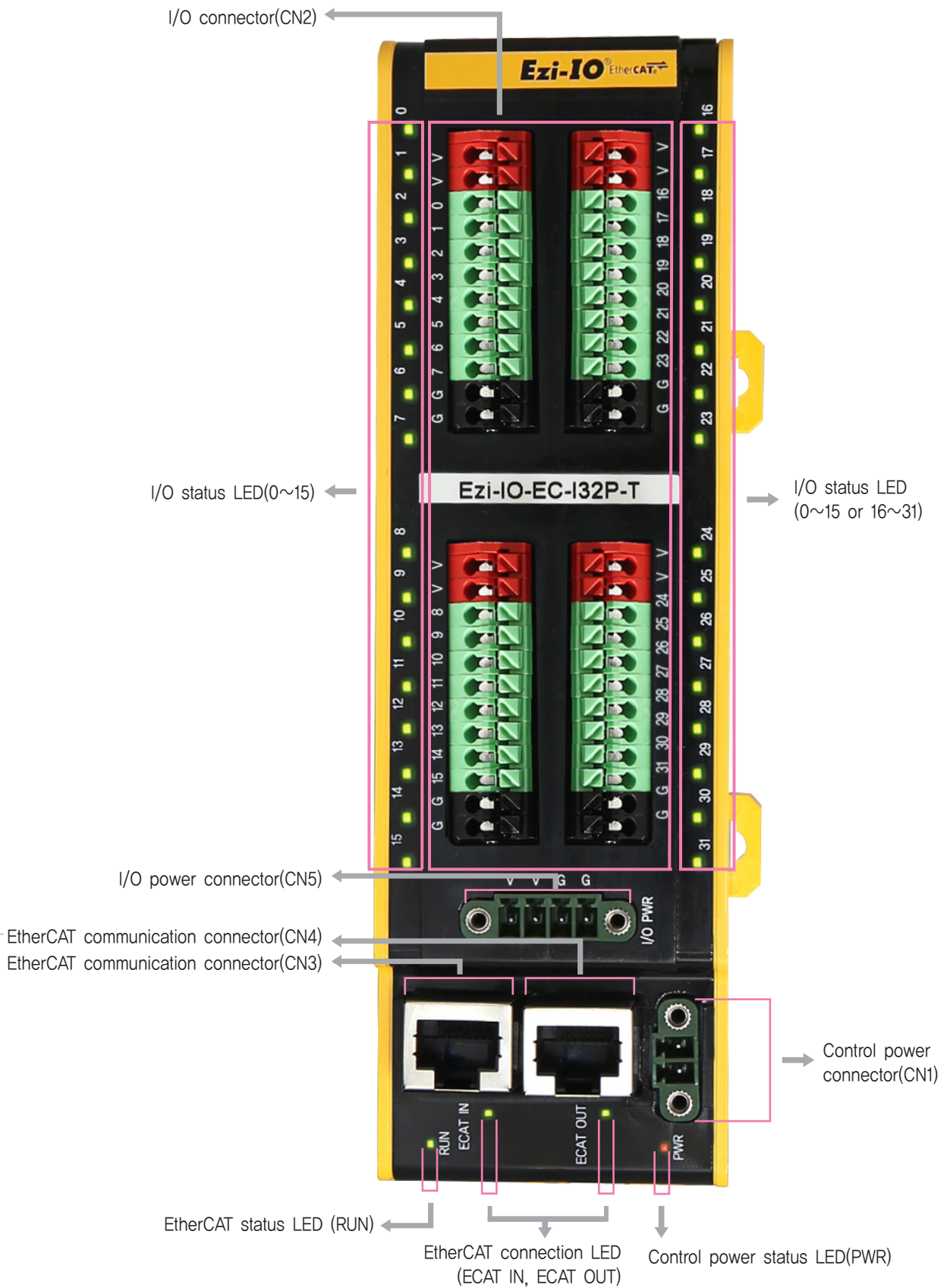


5. I/O Power Connector (CN5)

No.	Function	I/O
1	EXT_DC24V	Input
2	EXT_DC24V	Input
3	EXT_GND	Input
4	EXT_GND	Input



● Settings and Operation [32CH Terminal Block Type]



1. Status LED

• Power Status LED

Name	Color	Status	Description
PWR	Red	OFF	Power is OFF
		ON	Power is ON

• EtherCAT Status LED

Name	Color	Status	Description
RUN	Green	OFF	State INIT or Power OFF
		Blinking	State PRE-OPERATIONAL
		Single Flash	State SAFE-OPERATIONAL
		ON	State OPERATIONAL
		Flickering	State BOOTSTRAP

• EtherCAT Connection LED

Name	Color	Status	Description
ECAT IN / ECAT OUT	Green	OFF	Link not Established
		ON	Link Established
		Flickering	Link Established and in Operation

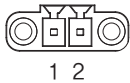
• I/O Status LED

Name*	Color	Status	Description
0~31 0~15 / 0~15	Green	OFF	Input Module : Input is OFF Output Module : Output is OFF
		ON	Input Module : Input is ON Output Module : Output is ON

* For Ezi-IO-EC-I16016N-T and Ezi-IO-EC-I16016P-T modules, the name is written as 0~15 / 0~15 .

2. Control Power Connector (CN1)

No.	Function	I/O
1	DC24V	Input
2	GND	Input

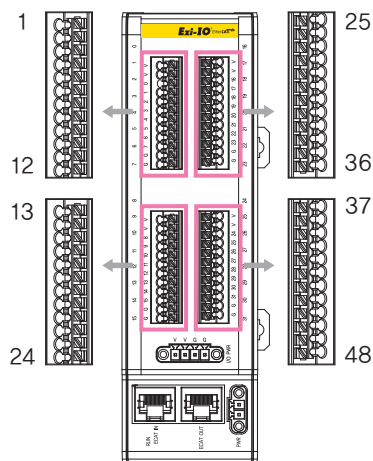


3. I/O Signal Connector(CN2)

No.	Name*	Function	I/O
1	V	EXT_DC24V	Output
2	V	EXT_DC24V	Output
3	0	SIGNAL	I/O
4	1	SIGNAL	I/O
5	2	SIGNAL	I/O
6	3	SIGNAL	I/O
7	4	SIGNAL	I/O
8	5	SIGNAL	I/O
9	6	SIGNAL	I/O
10	7	SIGNAL	I/O
11	G	EXT_GND	Output
12	G	EXT_GND	Output
13	V	EXT_DC24V	Output
14	V	EXT_DC24V	Output
15	8	SIGNAL	I/O
16	9	SIGNAL	I/O
17	10	SIGNAL	I/O
18	11	SIGNAL	I/O
19	12	SIGNAL	I/O
20	13	SIGNAL	I/O
21	14	SIGNAL	I/O
22	15	SIGNAL	I/O
23	G	EXT_GND	Output
24	G	EXT_GND	Output

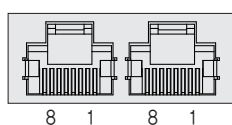
No.	Name*	Function	I/O
25	V	EXT_DC24V	Output
26	V	EXT_DC24V	Output
27	16(0)	SIGNAL	I/O
28	17(1)	SIGNAL	I/O
29	18(2)	SIGNAL	I/O
30	19(3)	SIGNAL	I/O
31	20(4)	SIGNAL	I/O
32	21(5)	SIGNAL	I/O
33	22(6)	SIGNAL	I/O
34	23(7)	SIGNAL	I/O
35	G	EXT_GND	Output
36	G	EXT_GND	Output
37	V	EXT_DC24V	Output
38	V	EXT_DC24V	Output
39	24(8)	SIGNAL	I/O
40	25(9)	SIGNAL	I/O
41	26(10)	SIGNAL	I/O
42	27(11)	SIGNAL	I/O
43	28(12)	SIGNAL	I/O
44	29(13)	SIGNAL	I/O
45	30(14)	SIGNAL	I/O
46	31(15)	SIGNAL	I/O
47	G	EXT_GND	Output
48	G	EXT_GND	Output

* For Ezi-IO-EC-I16016N-T and Ezi-IO-EC-I16016P-T modules, the name is written as 0~15 / 0~15 .



4. EtherCAT Communication Connection(CN3, CN4)

No.	Function
1	TD+
2	TD-
3	RD+
4	----
5	----
6	RD-
7	----
8	----
Connector Hood	F_GND



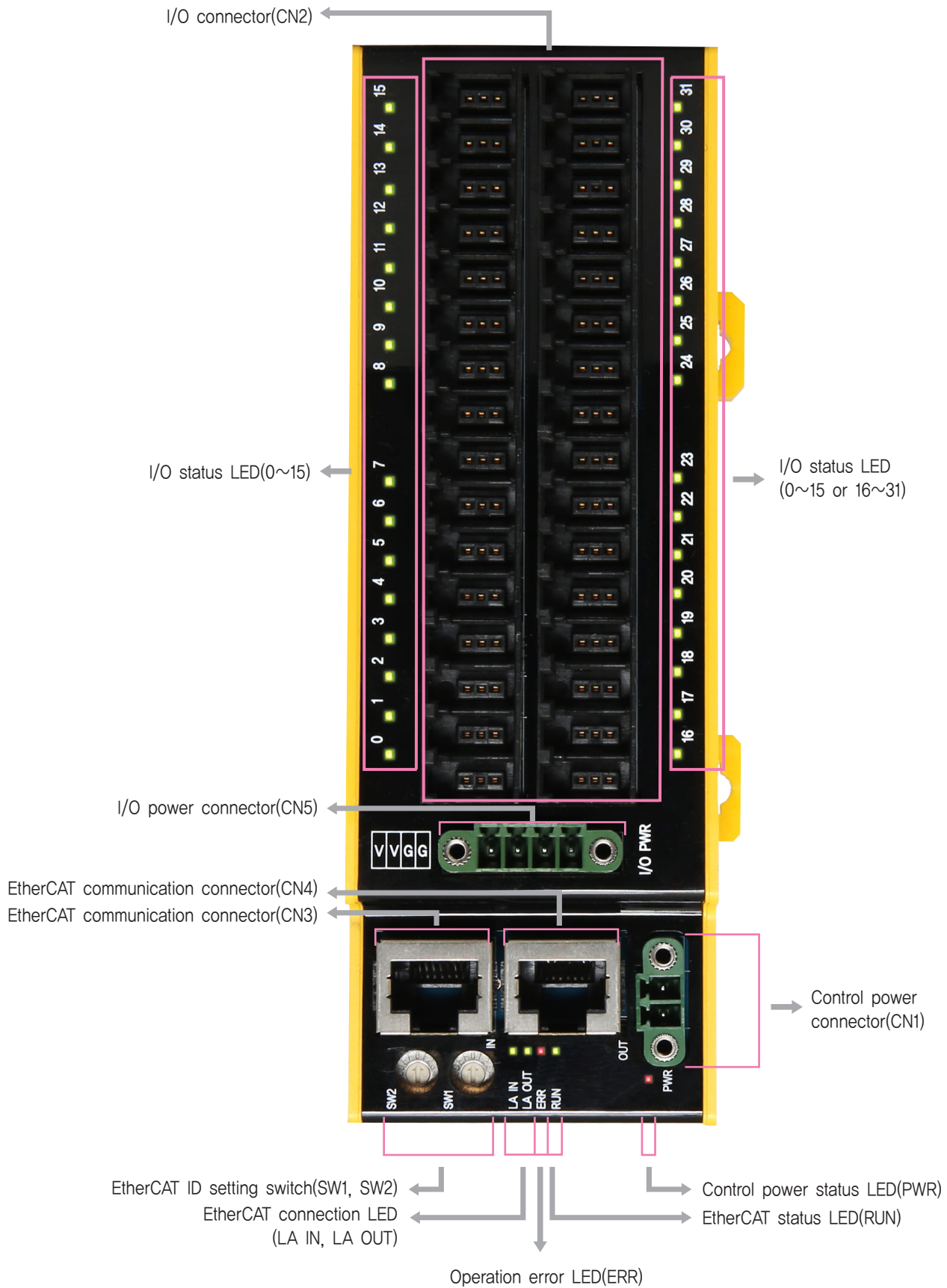
5. I/O Power Connector (CN5)

No.	Function	I/O
1	EXT_DC24V	Input
2	EXT_DC24V	Input
3	EXT_GND	Input
4	EXT_GND	Input



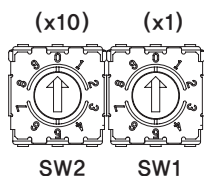
1 2 3 4

● Settings and Operation [32CH Option A Type]



1. Switch Setting

- EtherCAT ID Setting Switch (SW1, SW2)



They are switches to set the EtherCAT ID (ECAT Device ID) node address, and they represent a decimal number.
SW1 indicates the units digit (×1), and SW2 indicates the tens digit (×10).

2. Status LED

- Power status LED

Name	Color	Status	Description
PWR	Red	OFF	Power is OFF
		ON	Power is ON

- EtherCAT Status LED

Name	Color	Status	Description
RUN	Green	OFF	State INIT or Power OFF
		Blinking	State PRE-OPERATIONAL
		Single Flash	State SAFE-OPERATIONAL
		ON	State OPERATIONAL
		Flickering	State BOOTSTRAP

- Operation Error LED

Name	Color	Status	Description
ERR	Red	OFF	No Error or Power OFF
		Blinking	Invalid Configuration
		Single Flash	Local Error
		Double Flash	Watchdog Time Out

- EtherCAT Connection LED

Name	Color	Status	Description
LA IN / LA OUT	Green	OFF	Link not Established
		ON	Link Established
		Flickering	Link Established and in Operation

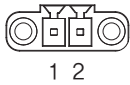
- I/O Status LED

Name*	Color	Status	Description
0~31 0~15 / 0~15	Green	OFF	Input Module : Input is OFF Output Module : Output is OFF
		ON	Input Module : Input is ON Output Module : Output is ON

* For Ezi-IO-EC-I16016N-E-A and Ezi-IO-EC-I16016P-E-A modules, the name is written as 0~15 / 0~15 .

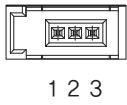
3. Control Power Connector(CN1)

No.	Function	I/O
1	DC24V	Input
2	GND	Input



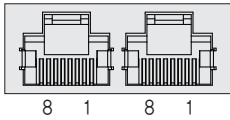
4. I/O Signal Connector(CN2)

No.	Function	I/O
1	EXT_DC24V	Output
2	SIGNAL	I/O
3	EXT_GND	Output



5. EtherCAT Communication Connection(CN3, CN4)

No.	Function
1	TD+
2	TD-
3	RD+
4	----
5	----
6	RD-
7	----
8	----
Connector Hood	F_GND

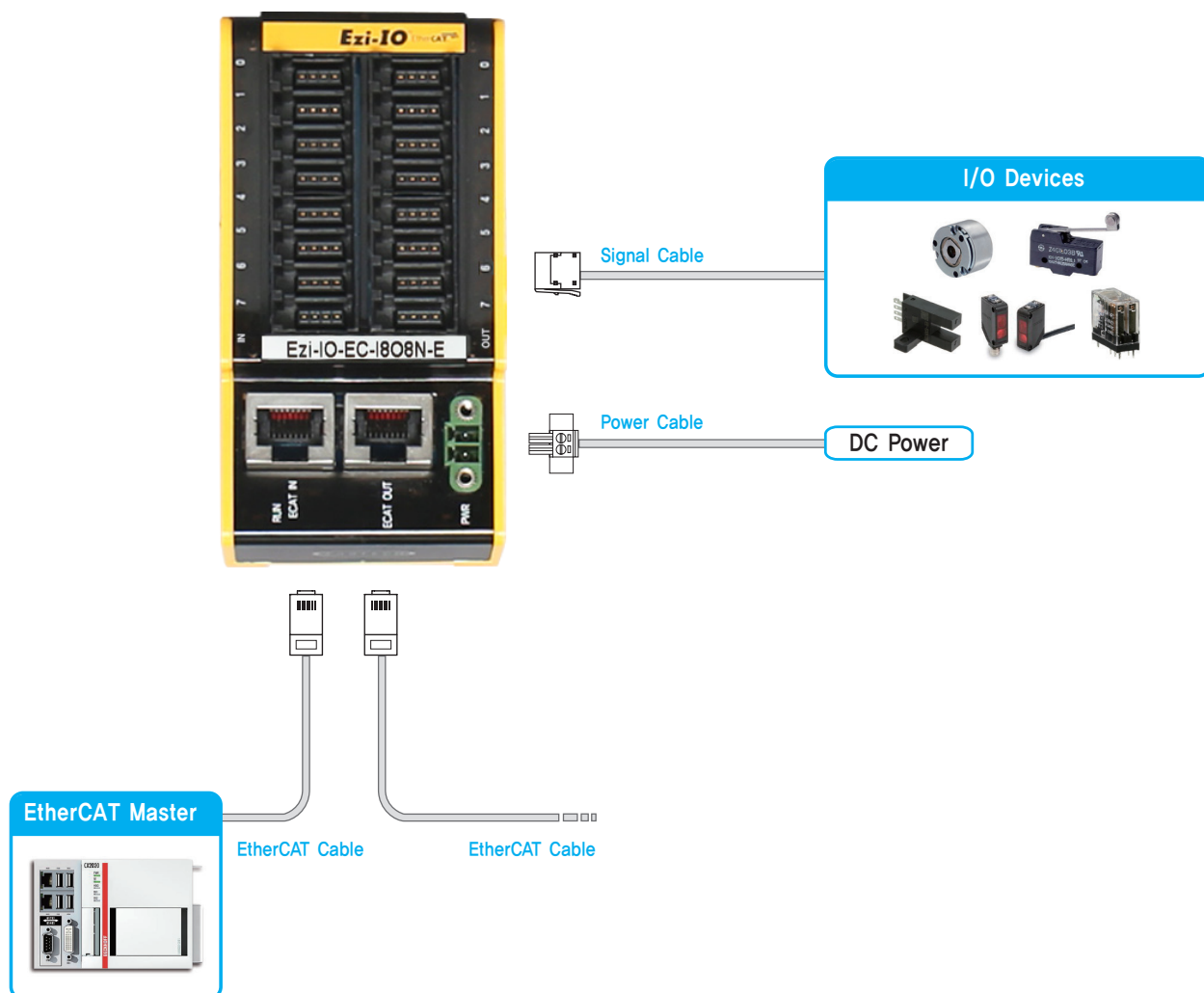


6. I/O Power Connector (CN5)

No.	Function	I/O
1	EXT_DC24V	Input
2	EXT_DC24V	Input
3	EXT_GND	Input
4	EXT_GND	Input



● System Configuration [16CH e-CON Type]



1. Accessories

● Connectors

Purpose	Item	Part Number	Manufacturer
Power (CN1)	Terminal Block	MC421-38102	DECA
Signal (CN2)	e-CON Plug Connector	CNE-P04-YW	Autonics

※ The connectors above are supplied with the product. If you are using other parts, please make sure they meet the specifications.

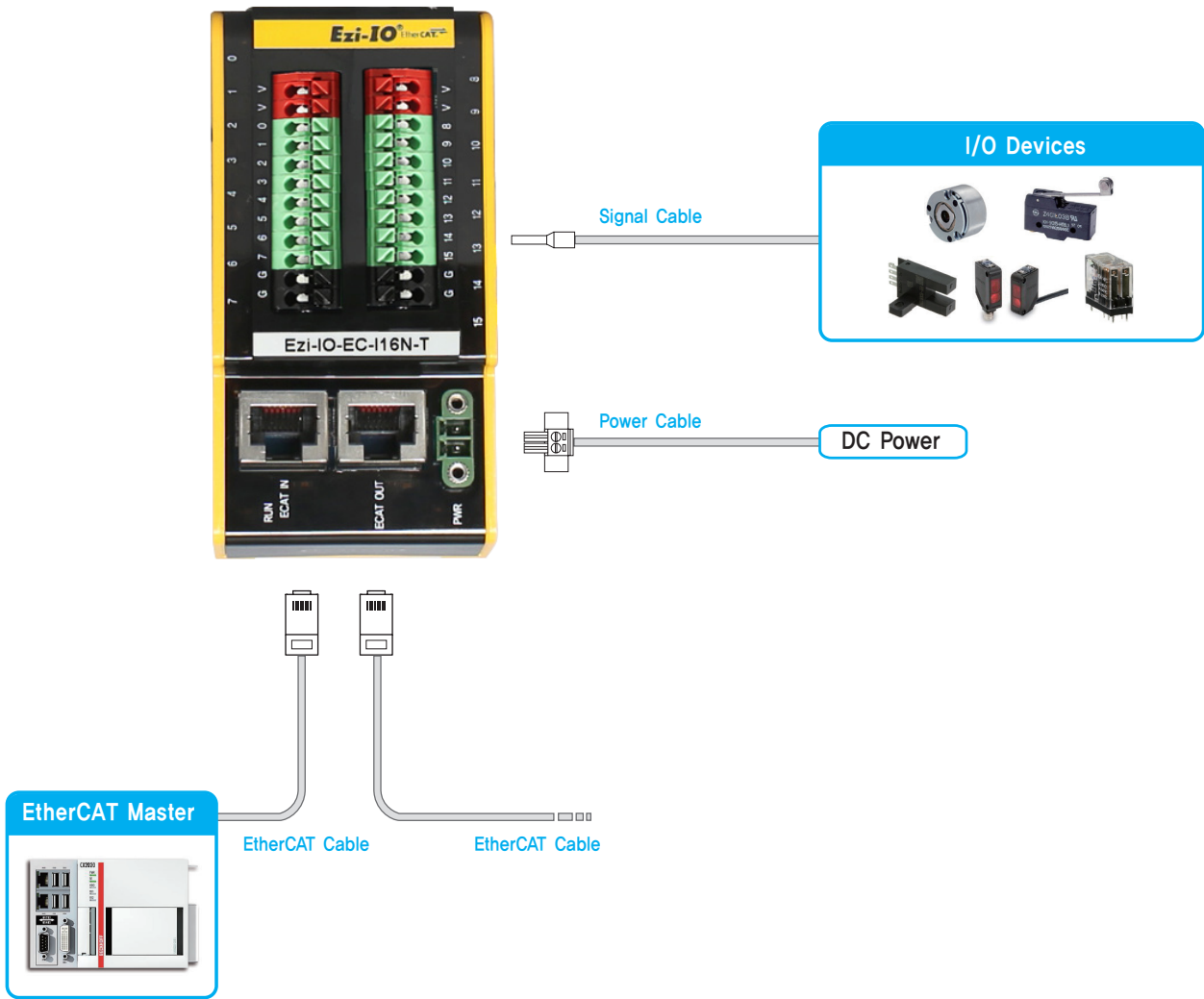
2. Options

● EtherCAT Cable

Purpose	Part Number	Length [m]	Remarks
EtherCAT Connection (CN3, CN4)	CGNR-EC-001F	1	<ul style="list-style-type: none"> STP(Shielded Twisted Pair) Cable Category 5e or higher Maximum Length: 100m Normal Cable
	CGNR-EC-002F	2	
	CGNR-EC-003F	3	
	CGNR-EC-005F	5	

※ If you need cables with length(in units of 1m) not listed on the table or robot cables, please contact FASTECH for more information.

● System Configuration [16CH Terminal Block Type]



1. Accessories

● Connectors

Purpose	Item	Part Number	Manufacturer
Power (CN1)	Terminal Block	MC421-38102	DECA

※ The connectors above are supplied with the product. If you are using other parts, please make sure they meet the specifications.

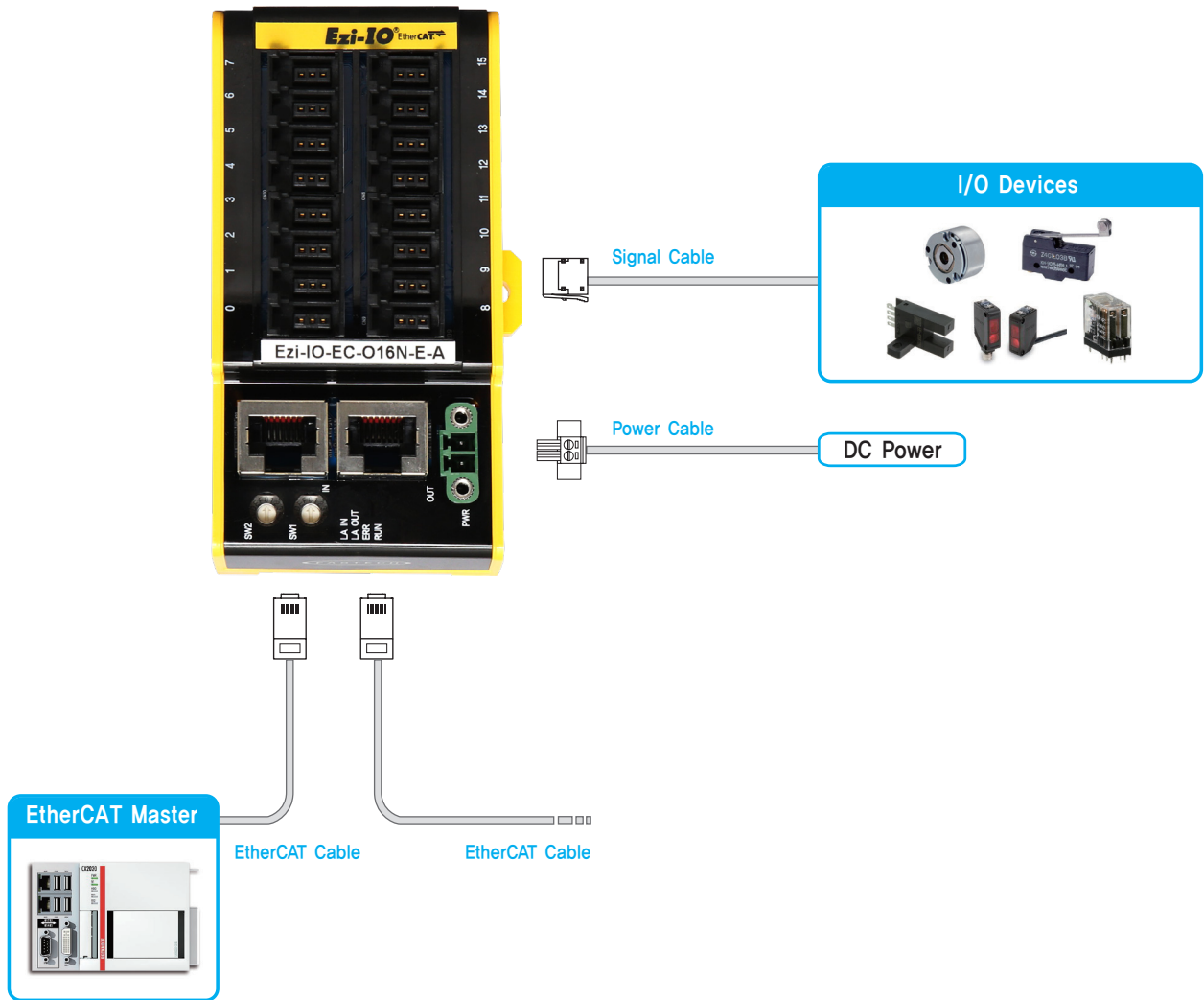
2. Options

● EtherCAT Cable

Purpose	Part Number	Length [m]	Remarks
EtherCAT Connection (CN3, CN4)	CGNR-EC-001F	1	· STP(Shielded Twisted Pair) Cable · Category 5e or higher · Maximum Length: 100m · Normal Cable
	CGNR-EC-002F	2	
	CGNR-EC-003F	3	
	CGNR-EC-005F	5	

※ If you need cables with length(in units of 1m) not listed on the table or robot cables, please contact FASTECH for more information.

● System Configuration [16CH Option A Type]



1. Accessories

● Connectors

Purpose	Item	Part Number	Manufacturer
Power (CN1)	Terminal Block	MC421-38102	DECA
Signal (CN2)	e-CON Plug Connector	CNE-P03-YW	Autonics

※ The connectors above are supplied with the product. If you are using other parts, please make sure they meet the specifications.

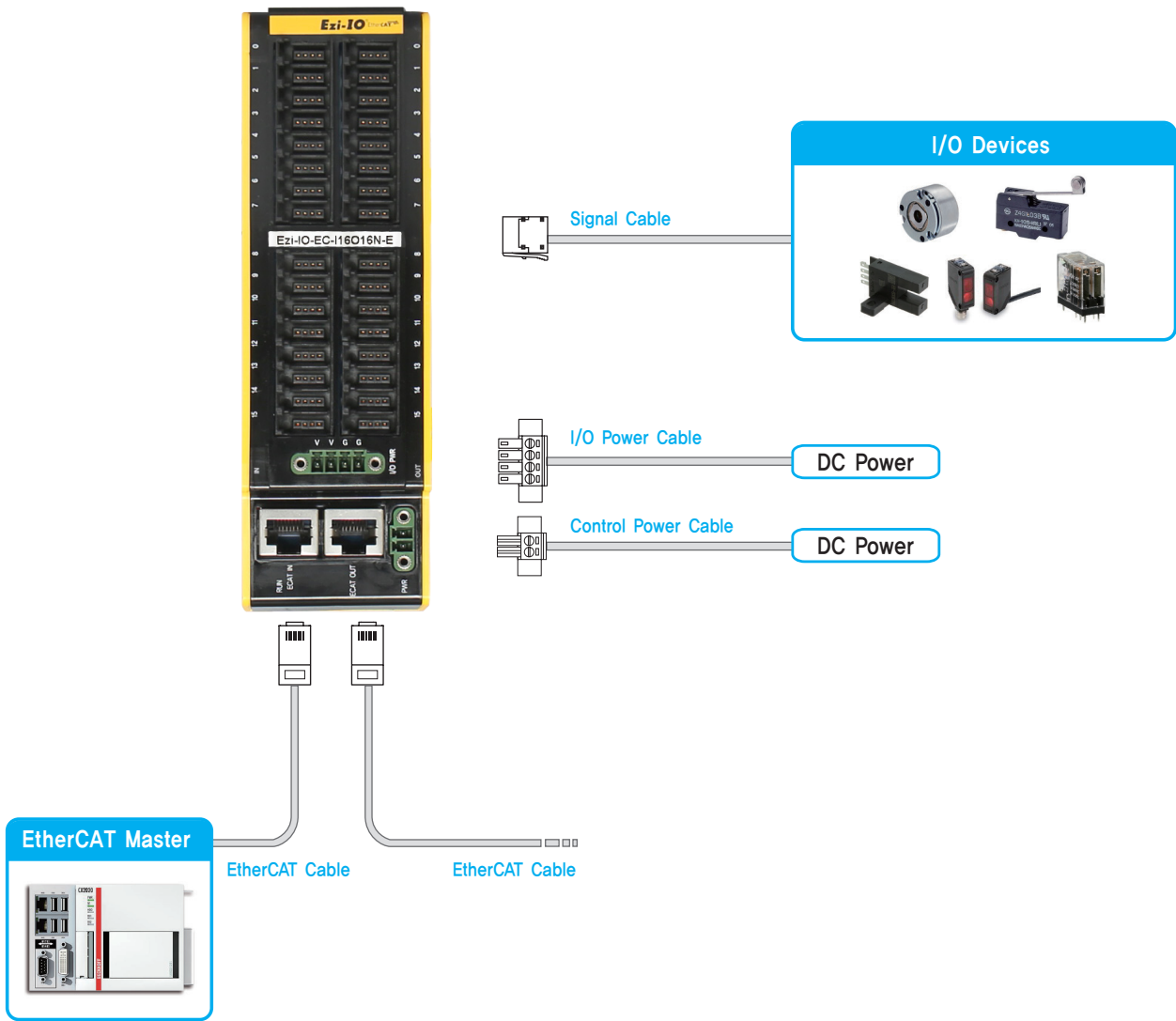
2. Options

● EtherCAT Cable

Purpose	Part Number	Length [m]	Remarks
EtherCAT Connection (CN3, CN4)	CGNR-EC-001F	1	<ul style="list-style-type: none"> STP(Shielded Twisted Pair) Cable Category 5e or higher Maximum Length: 100m Normal Cable
	CGNR-EC-002F	2	
	CGNR-EC-003F	3	
	CGNR-EC-005F	5	

※ If you need cables with length(in units of 1m) not listed on the table or robot cables, please contact FASTECH for more information.

● System Configuration [32CH e-CON Type]



1. Accessories

● Connectors

Purpose	Item	Part Number	Manufacturer
Control Power (CN1)	Terminal Block	MC421-38102	DECA
I/O Power (CN5)	Terminal Block	MC421-38104	DECA
Signal (CN2)	e-CON Plug Connector	CNE-P04-YW	Autonics

※ The connectors above are supplied with the product. If you are using other parts, please make sure they meet the specifications.

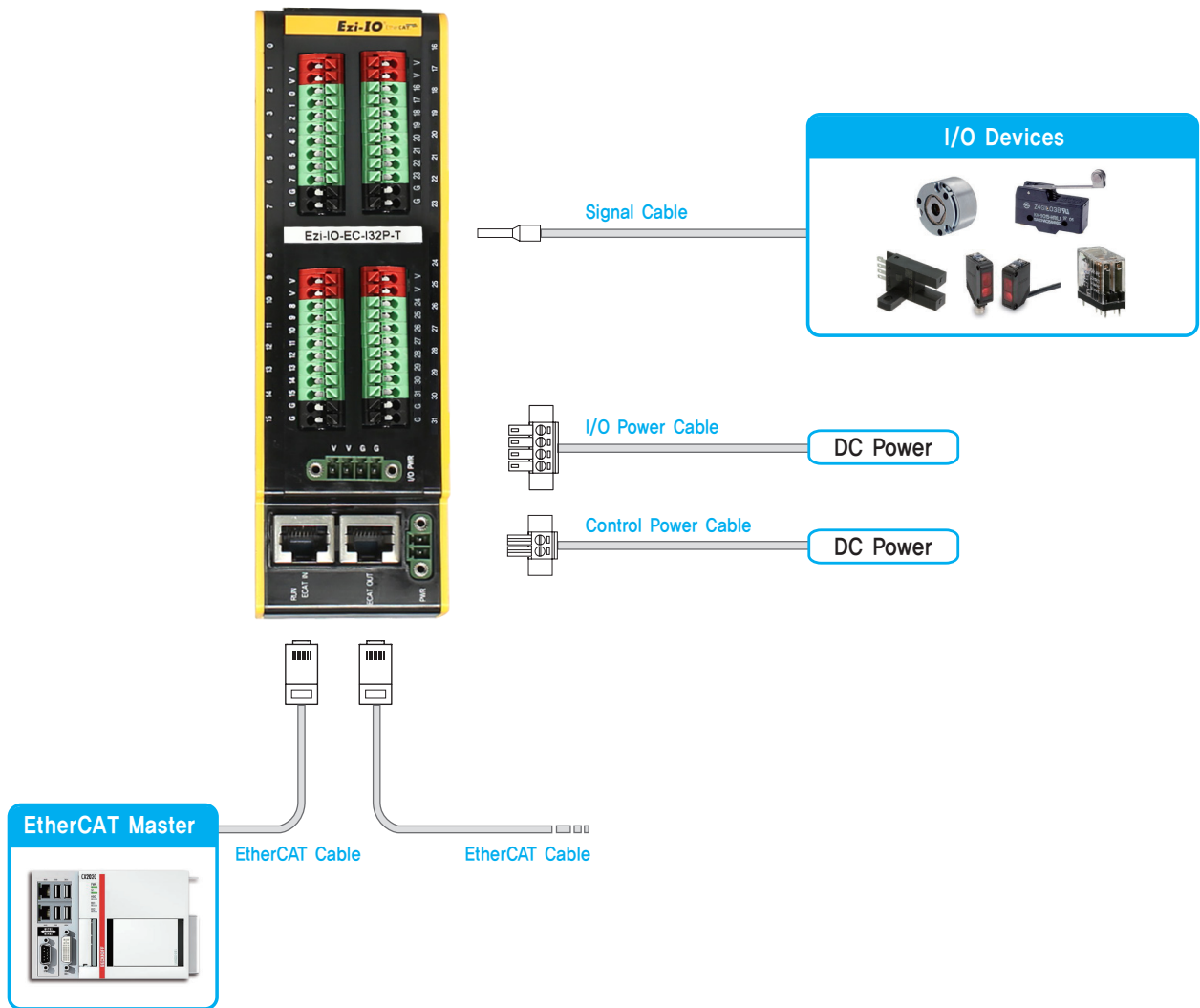
2. Options

● EtherCAT Cable

Purpose	Part Number	Length [m]	Remarks
EtherCAT Connection (CN3, CN4)	CGNR-EC-001F	1	· STP(Shielded Twisted Pair) Cable · Category 5e or higher · Maximum Length: 100m · Normal Cable
	CGNR-EC-002F	2	
	CGNR-EC-003F	3	
	CGNR-EC-005F	5	

※ If you need cables with length(in units of 1m) not listed on the table or robot cables, please contact FASTECH for more information.

● System Configuration [32CH Terminal Block Type]



1. Accessories

● Connectors

Purpose	Item	Part Number	Manufacturer
Control Power (CN1)	Terminal Block	MC421-38102	DECA
I/O Power (CN5)	Terminal Block	MC421-38104	DECA

※ The connectors above are supplied with the product. If you are using other parts, please make sure they meet the specifications.

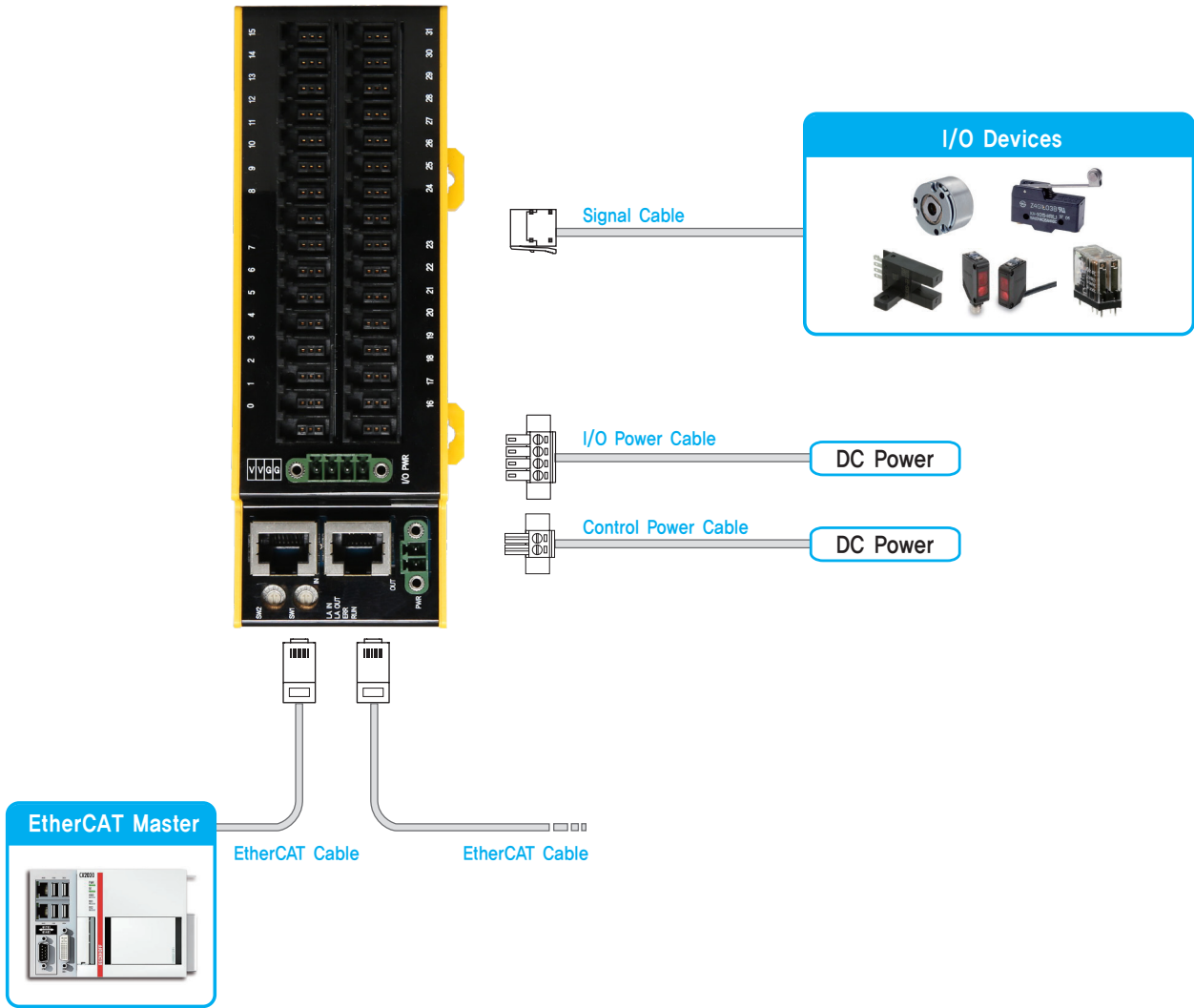
2. Options

● EtherCAT Cable

Purpose	Part Number	Length [m]	Remarks
EtherCAT Connection (CN3, CN4)	CGNR-EC-001F	1	<ul style="list-style-type: none"> STP(Shielded Twisted Pair) Cable Category 5e or higher Maximum Length: 100m Normal Cable
	CGNR-EC-002F	2	
	CGNR-EC-003F	3	
	CGNR-EC-005F	5	

※ If you need cables with length(in units of 1m) not listed on the table or robot cables, please contact FASTECH for more information.

● System Configuration [32CH Option A Type]



1. Accessories

● Connectors

Purpose	Item	Part Number	Manufacturer
Control Power (CN1)	Terminal Block	MC421-38102	DECA
I/O Power (CN5)	Terminal Block	MC421-38104	DECA
Signal (CN2)	e-CON Plug Connector	CNE-P03-YW	Autonics

※ The connectors above are supplied with the product. If you are using other parts, please make sure they meet the specifications.

2. Options

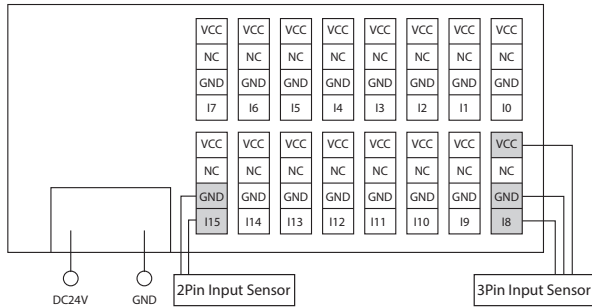
● EtherCAT Cable

Purpose	Part Number	Length [m]	Remarks
EtherCAT Connection (CN3, CN4)	CGNR-EC-001F	1	· STP(Shielded Twisted Pair) Cable · Category 5e or higher · Maximum Length: 100m · Normal Cable
	CGNR-EC-002F	2	
	CGNR-EC-003F	3	
	CGNR-EC-005F	5	

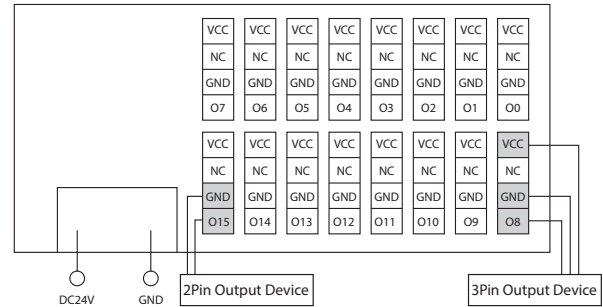
※ If you need cables with length(in units of 1m) not listed on the table or robot cables, please contact FASTECH for more information.

● External Wiring Diagram [16CH e-CON Type]

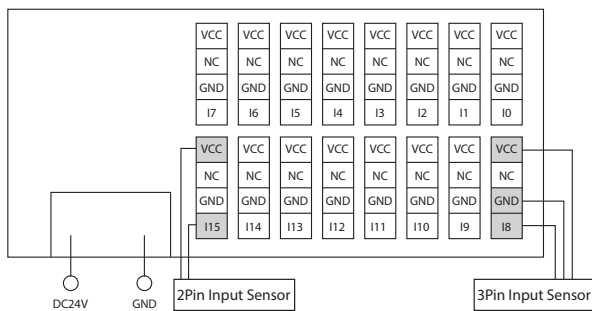
1 Ezi-IO-EC-I16N-E(NPN)



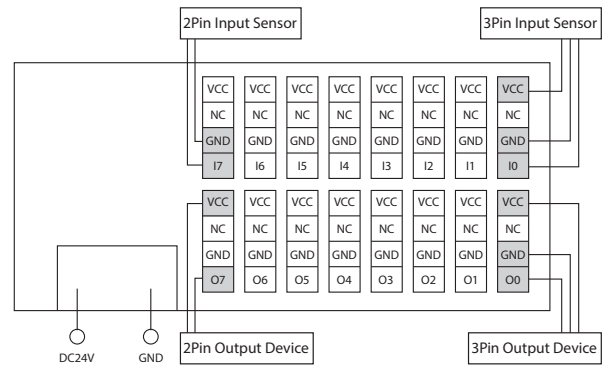
4 Ezi-IO-EC-O16P-E(PNP)



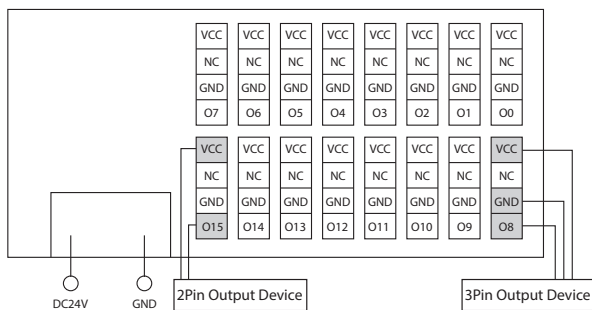
2 Ezi-IO-EC-I16P-E(PNP)



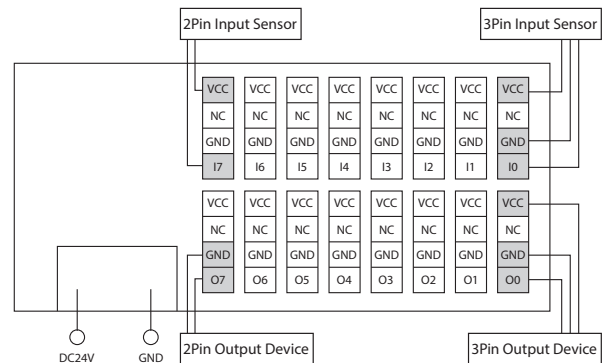
5 Ezi-IO-EC-I808N-E(NPN)



3 Ezi-IO-EC-O16N-E(NPN)



6 Ezi-IO-EC-I808P-E(PNP)



※ VCC is DC24V output.

※ e.g.) · 2Pin Input Sensor : Limit Sensor, etc.

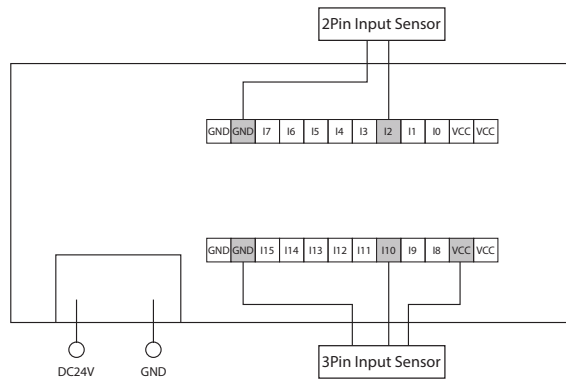
· 3Pin Input Sensor : Position Sensor, Photo Sensor, Proximity Sensor, etc.

· 2Pin Output Device : Brake, Solenoid, Photocoupler, etc.

● External Wiring Diagram [16CH Terminal Block Type]

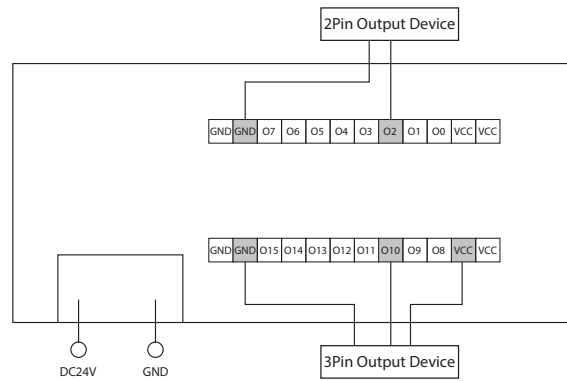
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Ezi-IO-EC-I16N-T(NPN)



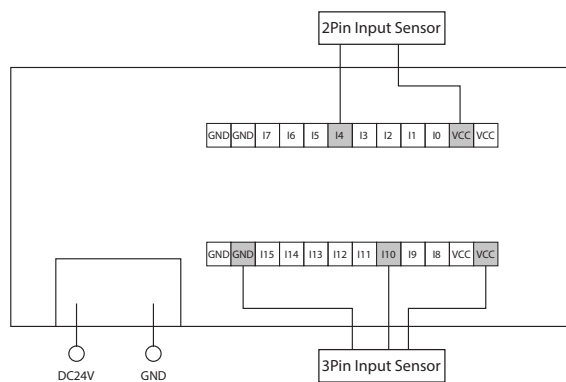
4

Ezi-IO-EC-O16P-T(PNP)



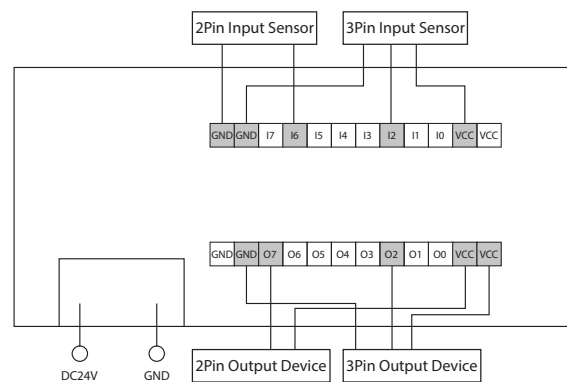
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Ezi-IO-EC-I16P-T(PNP)



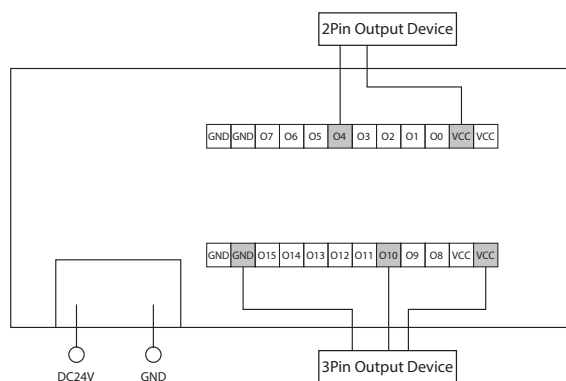
5

Ezi-IO-EC-I808N-T(NPN)



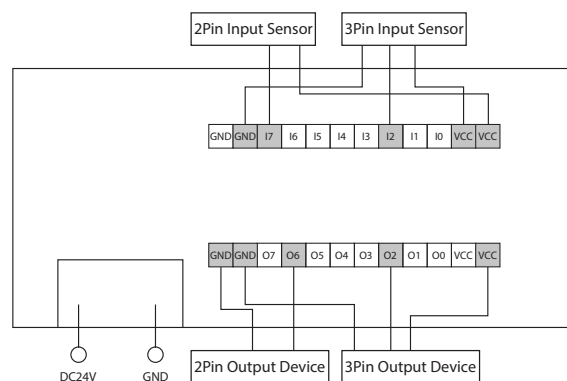
3

Ezi-IO-EC-O16N-T(NPN)



6

Ezi-IO-EC-I808P-T(PNP)



※ VCC is DC24V output.

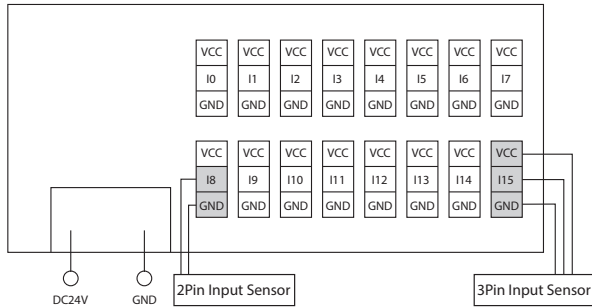
※ e.g.) · 2Pin Input Sensor : Limit Sensor, etc.

· 3Pin Input Sensor : Position Sensor, Photo Sensor, Proximity Sensor, etc.

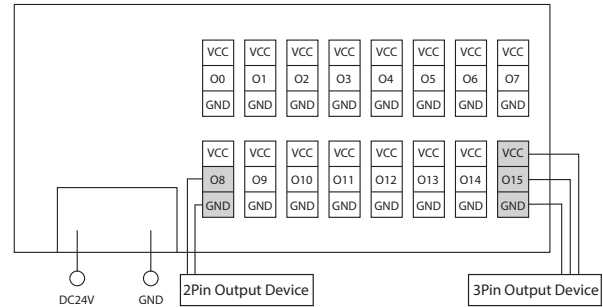
· 2Pin Output Device : Brake, Solenoid, Photocoupler, etc.

● External Wiring Diagram [16CH Option A Type]

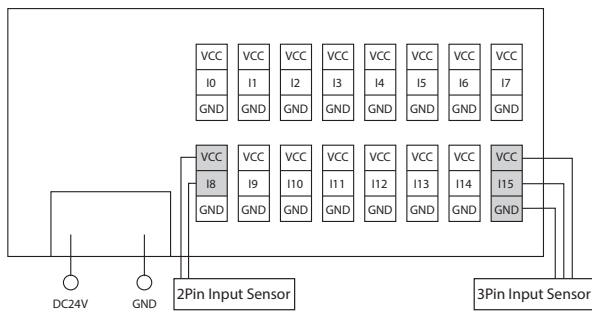
1 Ezi-IO-EC-I16N-E-A(NPN)



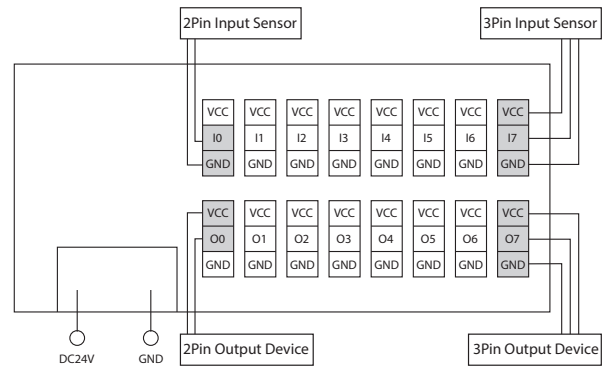
4 Ezi-IO-EC-O16P-E-A(PNP)



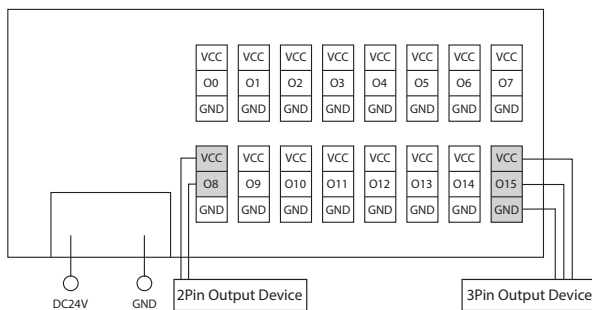
2 Ezi-IO-EC-I16P-E-A(PNP)



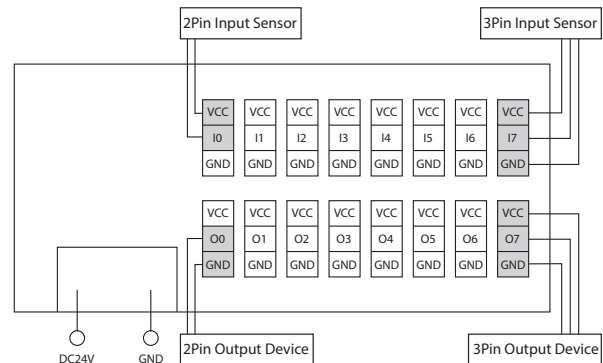
5 Ezi-IO-EC-I808N-E-A(NPN)



3 Ezi-IO-EC-O16N-E-A(NPN)



6 Ezi-IO-EC-I808P-E-A(PNP)



※ VCC is DC24V output.

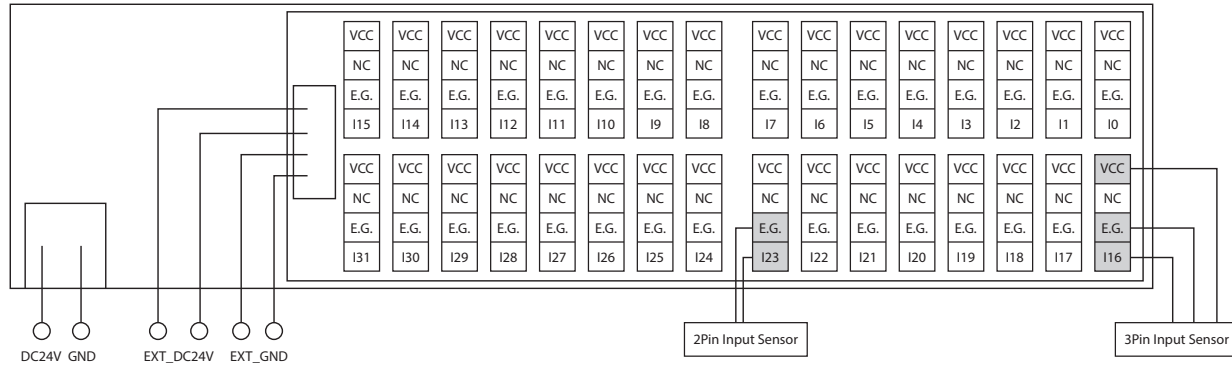
※ e.g.) · 2Pin Input Sensor : Limit Sensor, etc.

· 3Pin Input Sensor : Position Sensor, Photo Sensor, Proximity Sensor, etc.

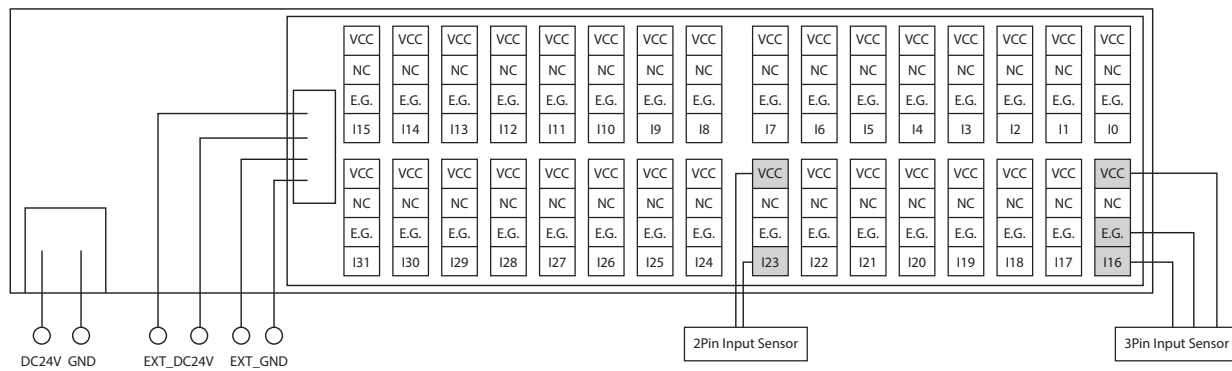
· 2Pin Output Device : Brake, Solenoid, Photocoupler, etc.

● External Wiring Diagram [32CH e-CON Type]

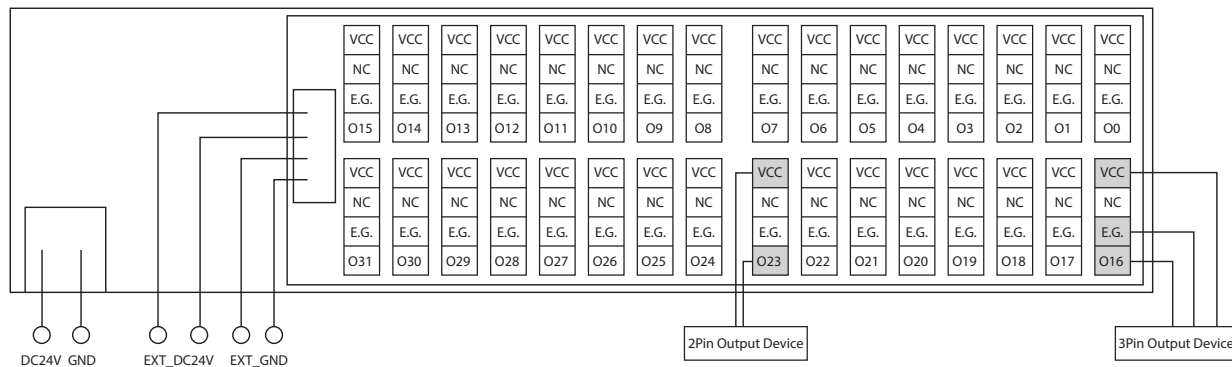
1 Ezi-IO-EC-I32N-E(NPN)



2 Ezi-IO-EC-I32P-E(PNP)



3 Ezi-IO-EC-O32N-E(NPN)



※ VCC and E.G are supplied from I/O Power Connector(CN5).

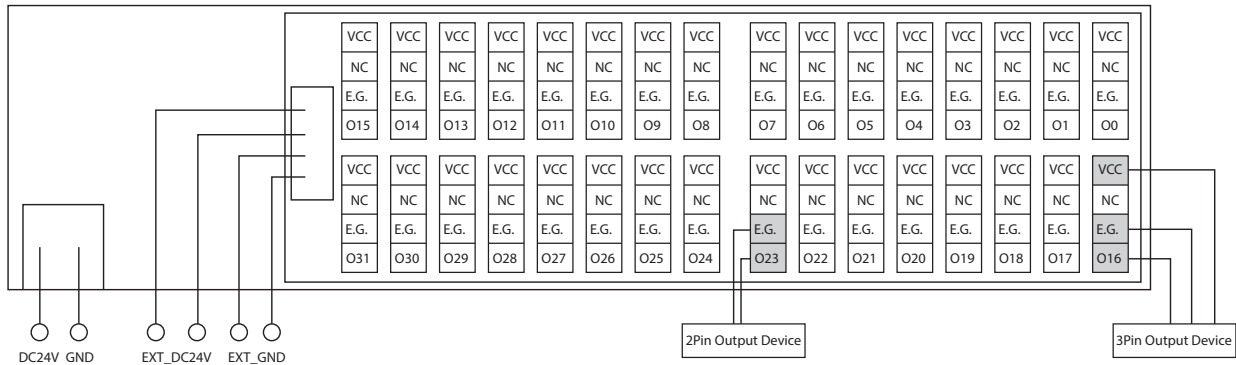
※ e.g.) · 2Pin Input Sensor : Limit Sensor, etc.

· 3Pin Input Sensor : Position Sensor, Photo Sensor, Proximity Sensor, etc.

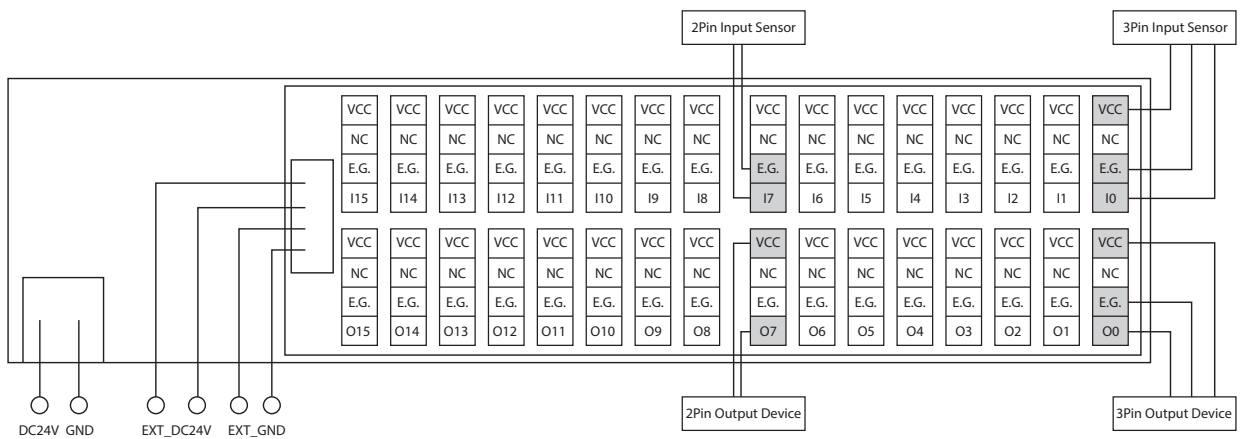
· 2Pin Output Device : Brake, Solenoid, Photocoupler, etc.

● External Wiring Diagram [32CH e-CON Type]

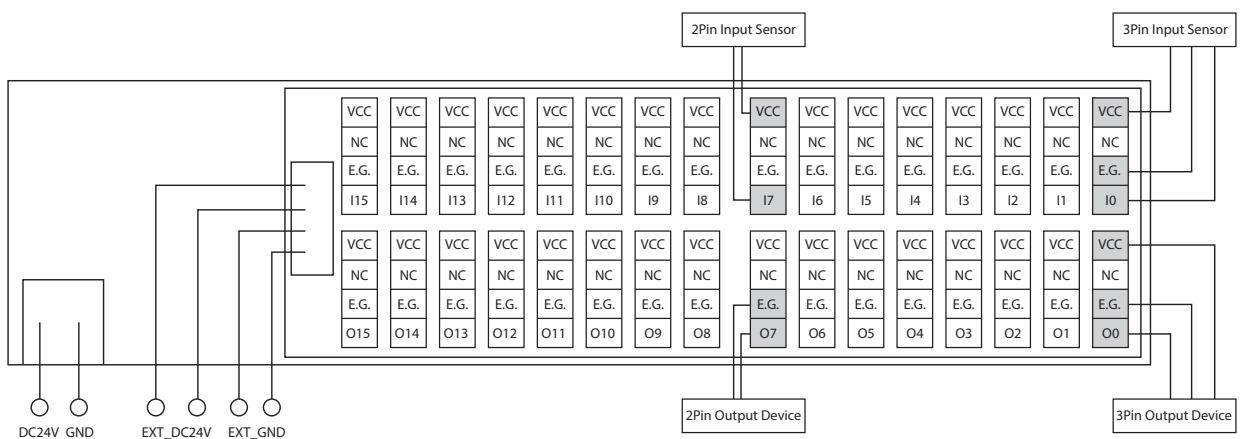
4 Ezi-IO-EC-032P-E(PNP)



5 Ezi-IO-EC-I16O16N-E(NPN)



6 Ezi-IO-EC-I16O16P-E(PNP)



※ VCC and E.G are supplied from I/O Power Connector(CN5).

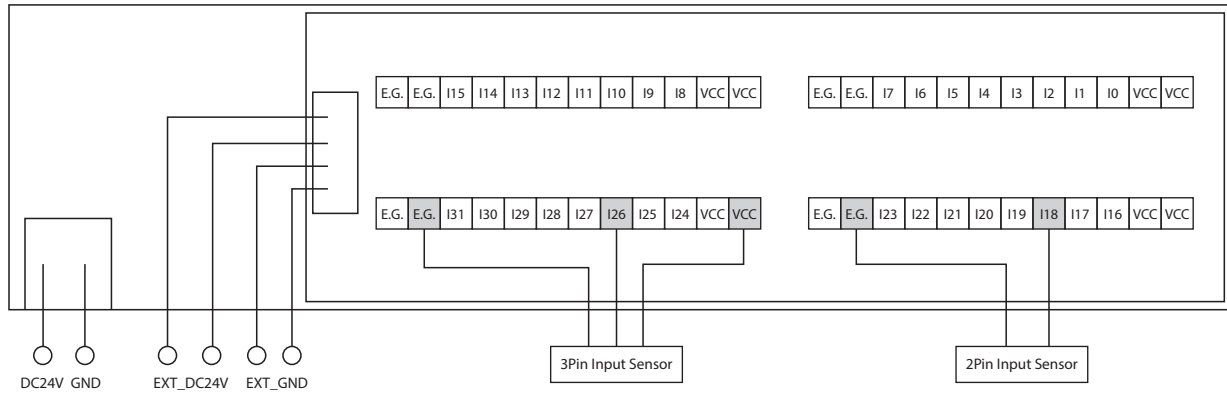
※ e.g.) ・ 2Pin Input Sensor : Limit Sensor, etc.

・ 3Pin Input Sensor : Position Sensor, Photo Sensor, Proximity Sensor, etc.

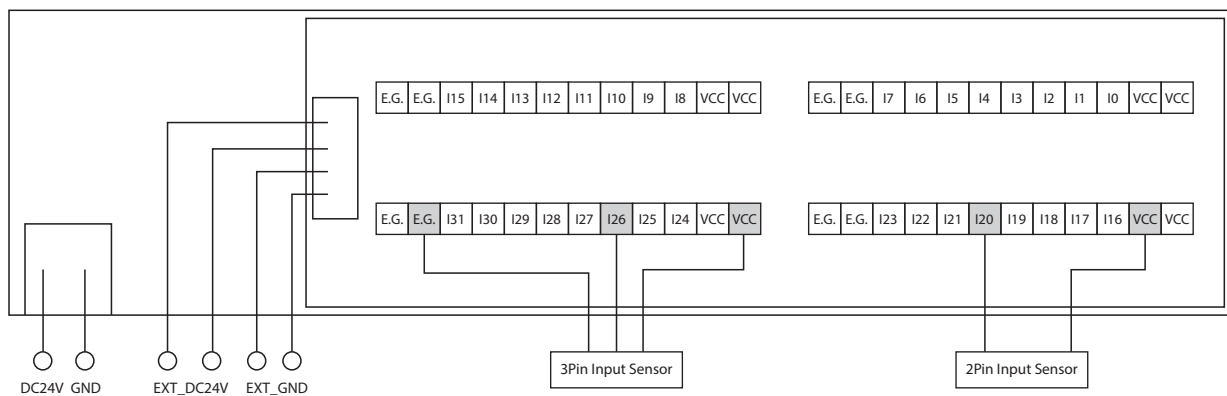
・ 2Pin Output Device : Brake, Solenoid, Photocoupler, etc.

● External Wiring Diagram [32CH Terminal Block Type]

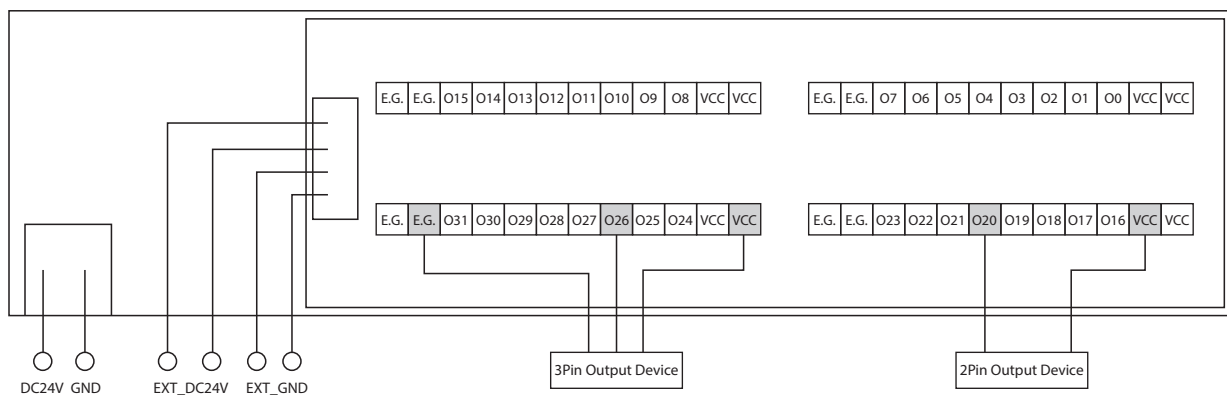
1 Ezi-IO-EC-I32N-T(NPN)



2 Ezi-IO-EC-I32P-T(PNP)



3 Ezi-IO-EC-O32N-T(NPN)



※ VCC and E.G are supplied from I/O Power Connector(CN5).

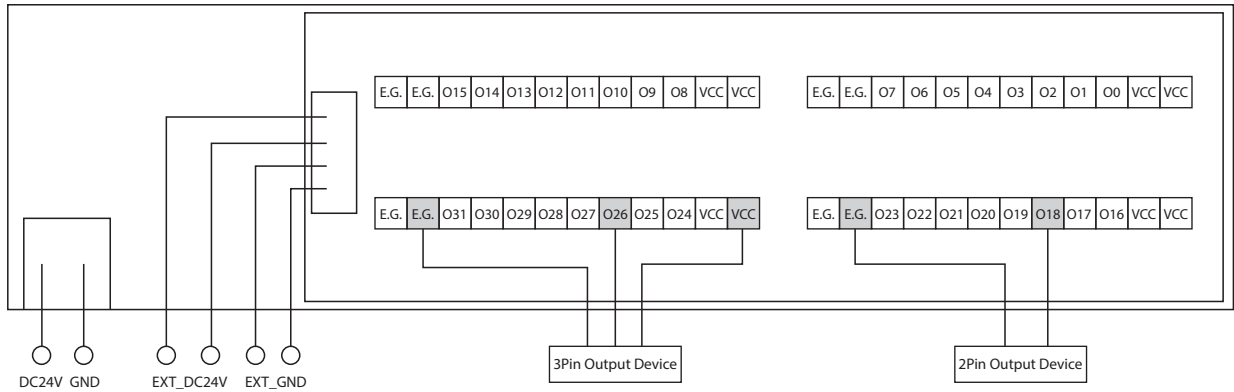
※ e.g.) - 2Pin Input Sensor : Limit Sensor, etc.

- 3Pin Input Sensor : Position Sensor, Photo Sensor, Proximity Sensor, etc.

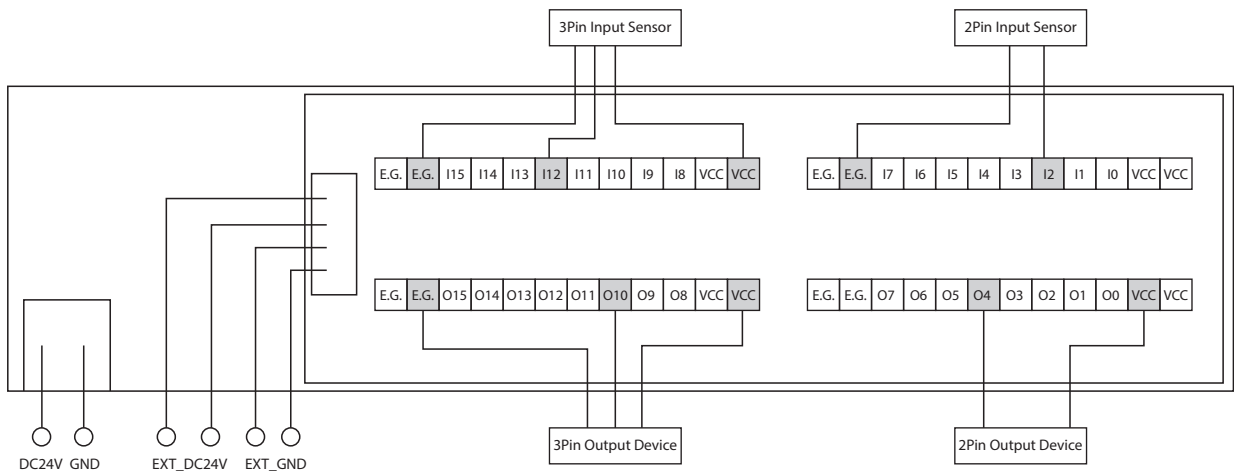
- 2Pin Output Device : Brake, Solenoid, Photocoupler, etc.

● External Wiring Diagram [32CH Terminal Block Type]

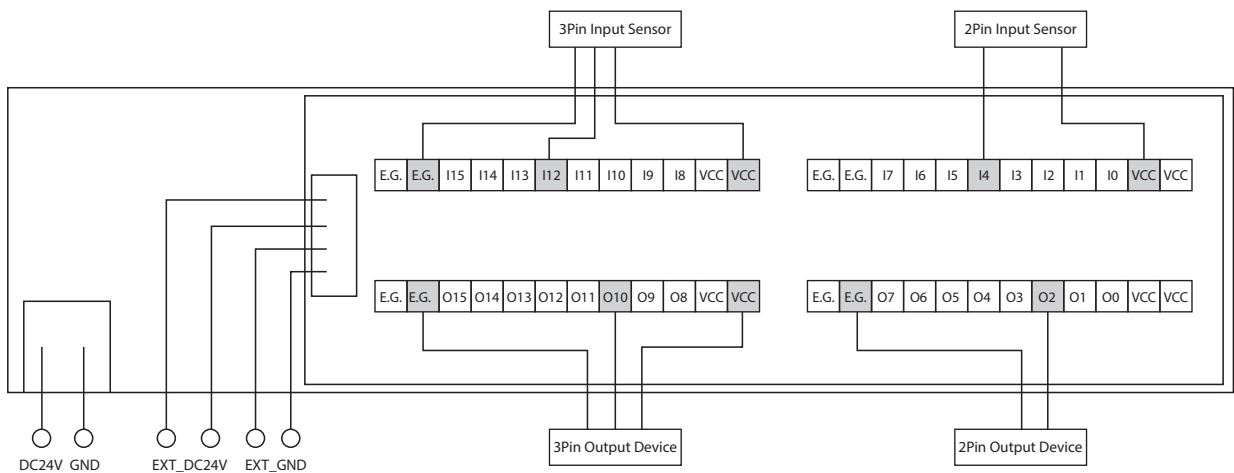
4 Ezi-IO-EC-032P-T(PNP)



5 Ezi-IO-EC-I16O16N-T(NPN)



6 Ezi-IO-EC-I16O16P-T(PNP)



※ VCC and E.G. are supplied from I/O Power Connector(CN5).

※ e.g.) · 2Pin Input Sensor : Limit Sensor, etc.

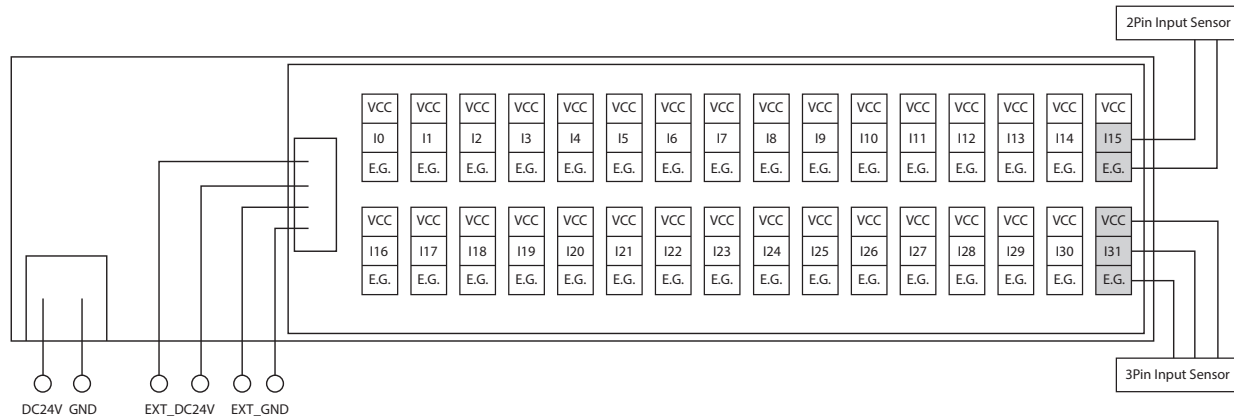
· 3Pin Input Sensor : Position Sensor, Photo Sensor, Proximity Sensor, etc.

· 2Pin Output Device : Brake, Solenoid, Photocoupler, etc.

● External Wiring Diagram [32CH Option A Type]

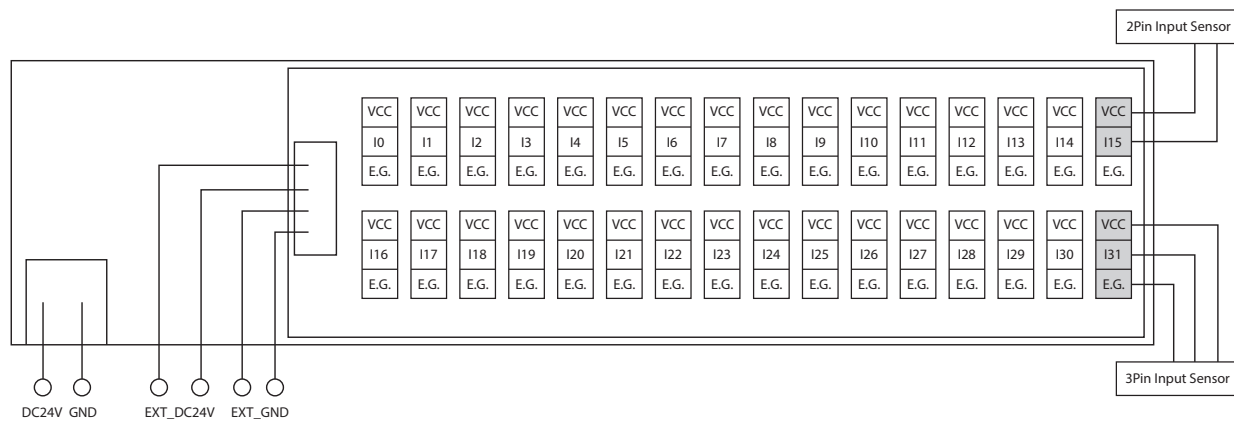
1

Ezi-IO-EC-I32N-E-A(NPN)



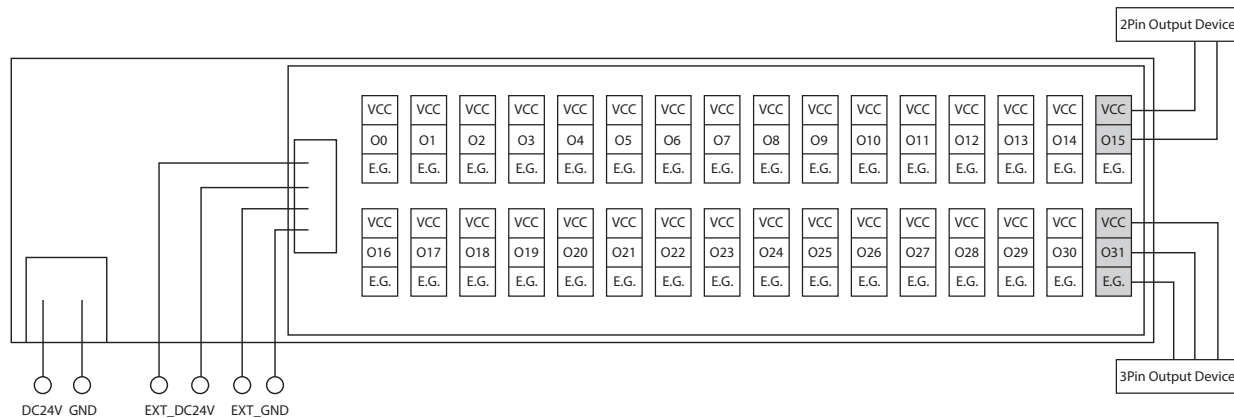
2

Ezi-IO-EC-I32P-E-A(PNP)



3

Ezi-IO-EC-O32N-E-A(NPN)



※ VCC and E.G are supplied from I/O Power Connector(CN5).

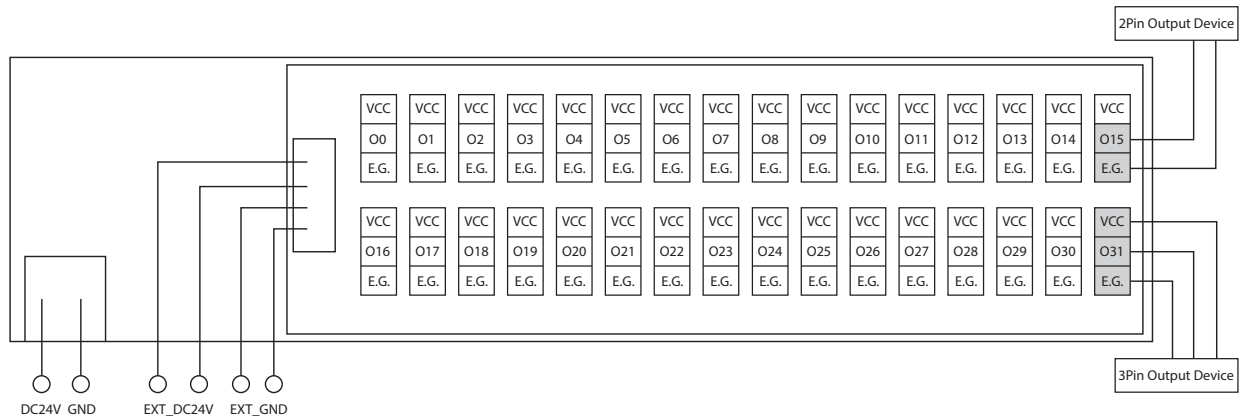
※ e.g.) · 2Pin Input Sensor : Limit Sensor, etc.

· 3Pin Input Sensor : Position Sensor, Photo Sensor, Proximity Sensor, etc.

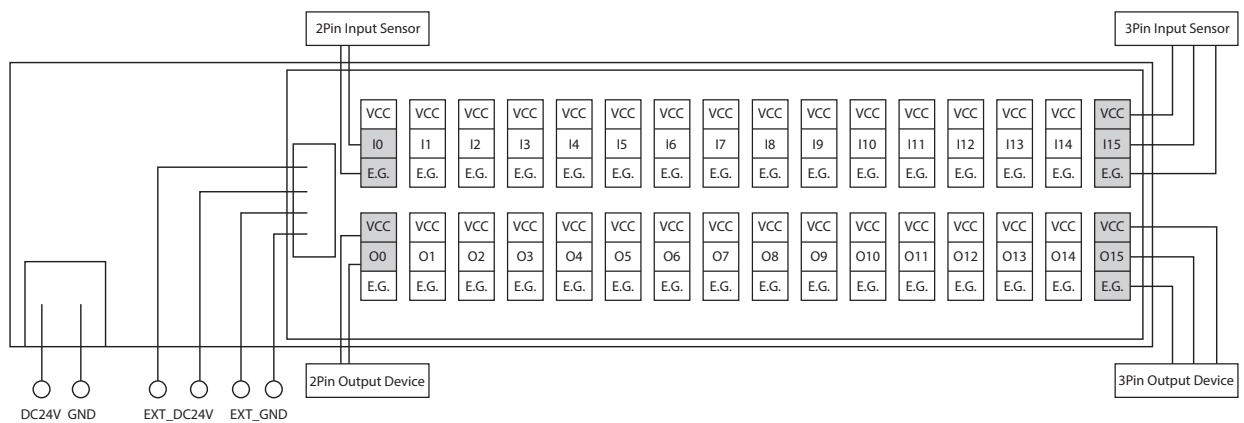
· 2Pin Output Device : Brake, Solenoid, Photocoupler, etc.

● External Wiring Diagram [32CH Option A Type]

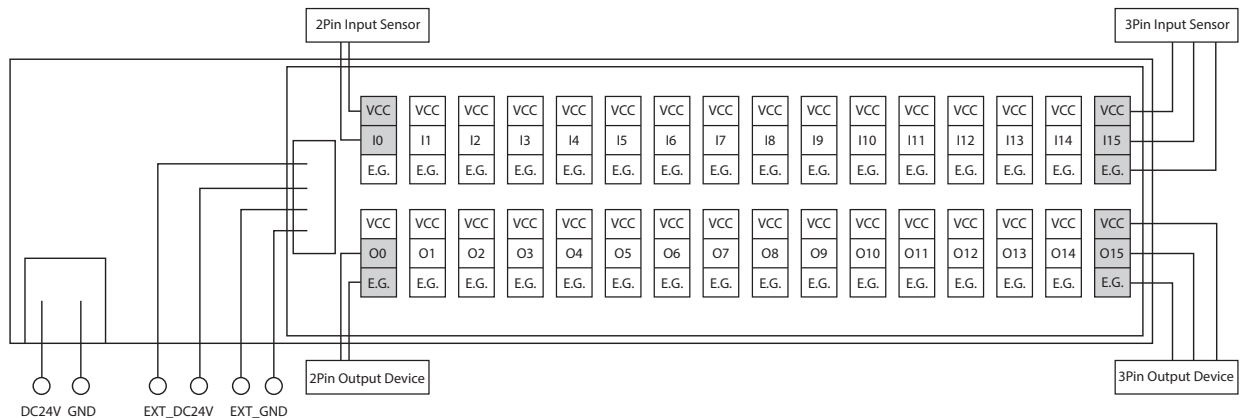
4 Ezi-IO-EC-032P-E-A(PNP)



5 Ezi-IO-EC-I16O16N-E-A(NPN)



6 Ezi-IO-EC-I16O16P-E-A(PNP)



※ VCC and E.G are supplied from I/O Power Connector(CN5).

※ e.g.) · 2Pin Input Sensor : Limit Sensor, etc.

· 3Pin Input Sensor : Position Sensor, Photo Sensor, Proximity Sensor, etc.

· 2Pin Output Device : Brake, Solenoid, Photocoupler, etc.

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