

Ezi-IO[®]

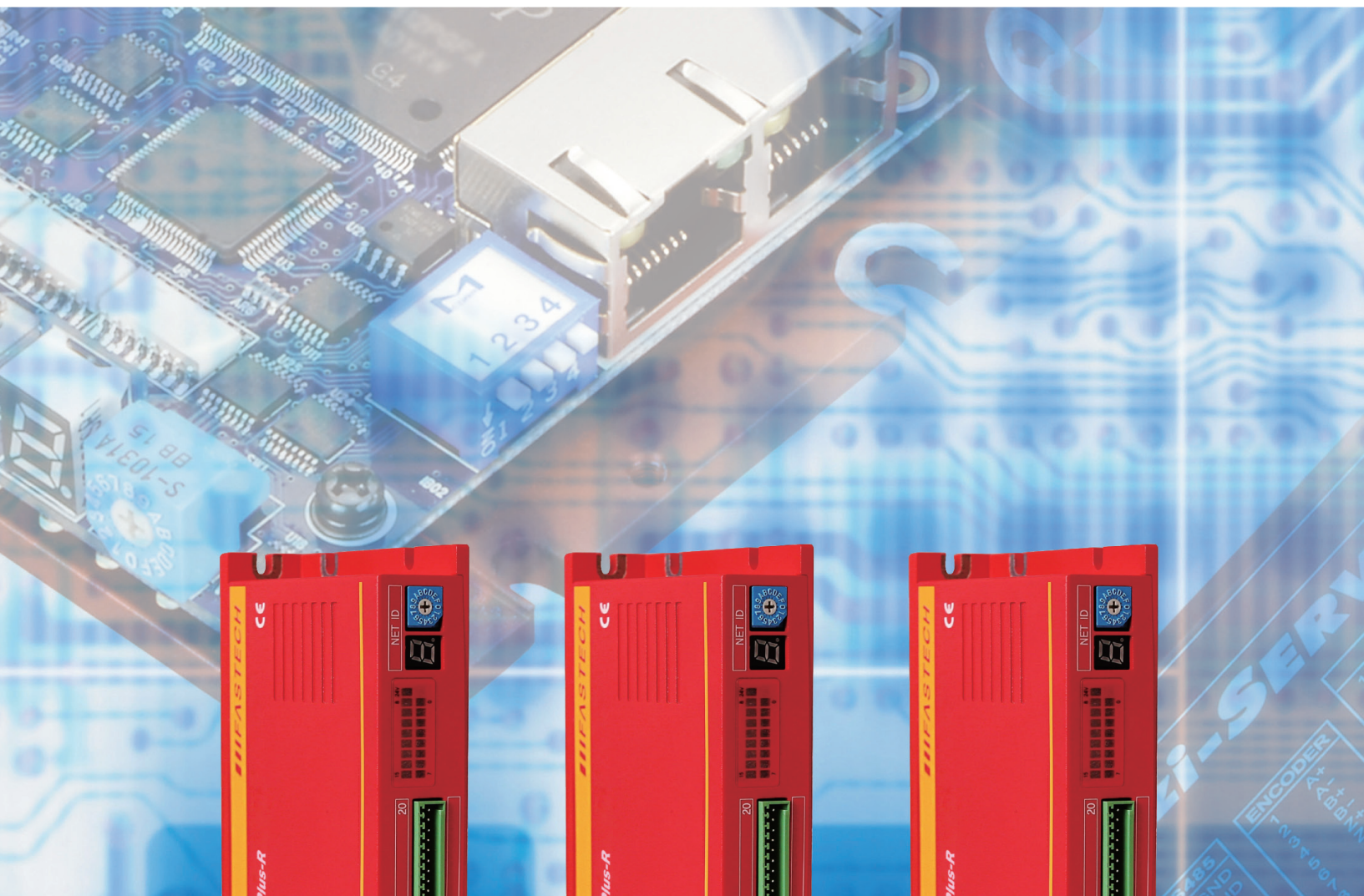
Input/Output Module

- Control by RS-485 communication
- Use the same communication protocol as Plus-R product series
- Digital I/O Photocoupler Isolation
- Specialized for 16 input channels
- Specialized for 16 output channels
- Specialized for 8 input 8 output channels

Plus-R



Fast, Accurate, Smooth Motion



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Ezi-IO[®] Plus-R

Input/Output Module



1 Network Supported Digital I/O

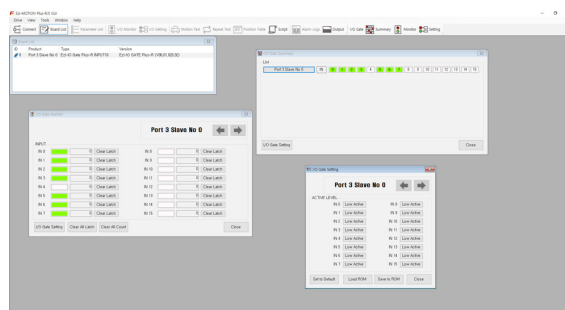
Ezi-IO Plus-R Series are products which provide Digital input and output module with RS-485 network so that customers can easily control many peripheral devices on the equipment as needed.

2 Supported FASTECH Protocol

It uses the same RS-485 communication protocol as legacy network supported Plus-R product of FASTECH.

3 Provide User GUI and Library

For customer convenience in a PC-controlled environment, the Graphic User Interface and Windows XP/7/8/10 corresponding Library (DLL) are provided.



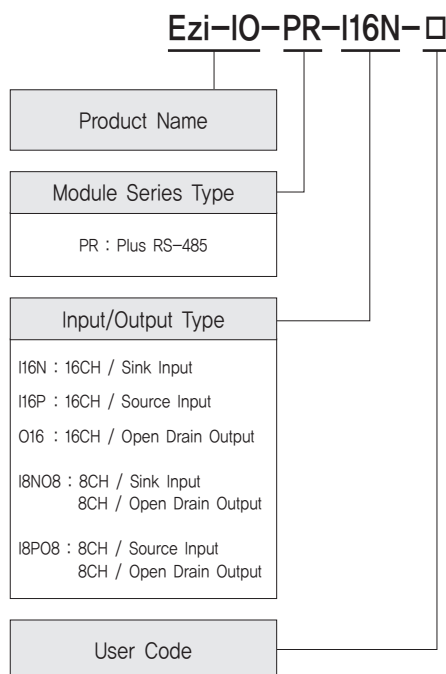
4 Specialized 16CH I/O Module

These products are 16CH input module, 16CH output module, mixed 8CH input 8CH output module for each product group. Various configurations are possible by selecting NPN type or PNP type according to user's need. Input module have Latch/Latch count function. Output module have Trigger out function.

5 Digital I/O Photocoupler Isolation

By using photocoupler isolation elements, input and output circuit of both side can be protected from electrical damage.

● Ezi-IO Plus-R Part Numbering



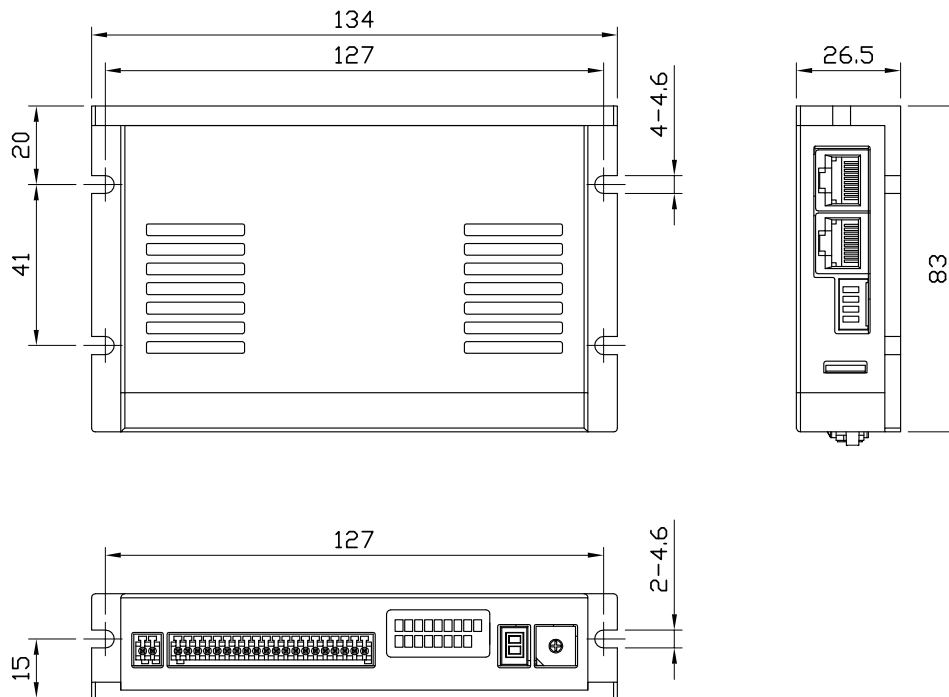
● Ezi-IO Plus-R Part Number

Part Number
Ezi-IO-PR-I16N
Ezi-IO-PR-I16P
Ezi-IO-PR-O16
Ezi-IO-PR-I8N08
Ezi-IO-PR-I8P08

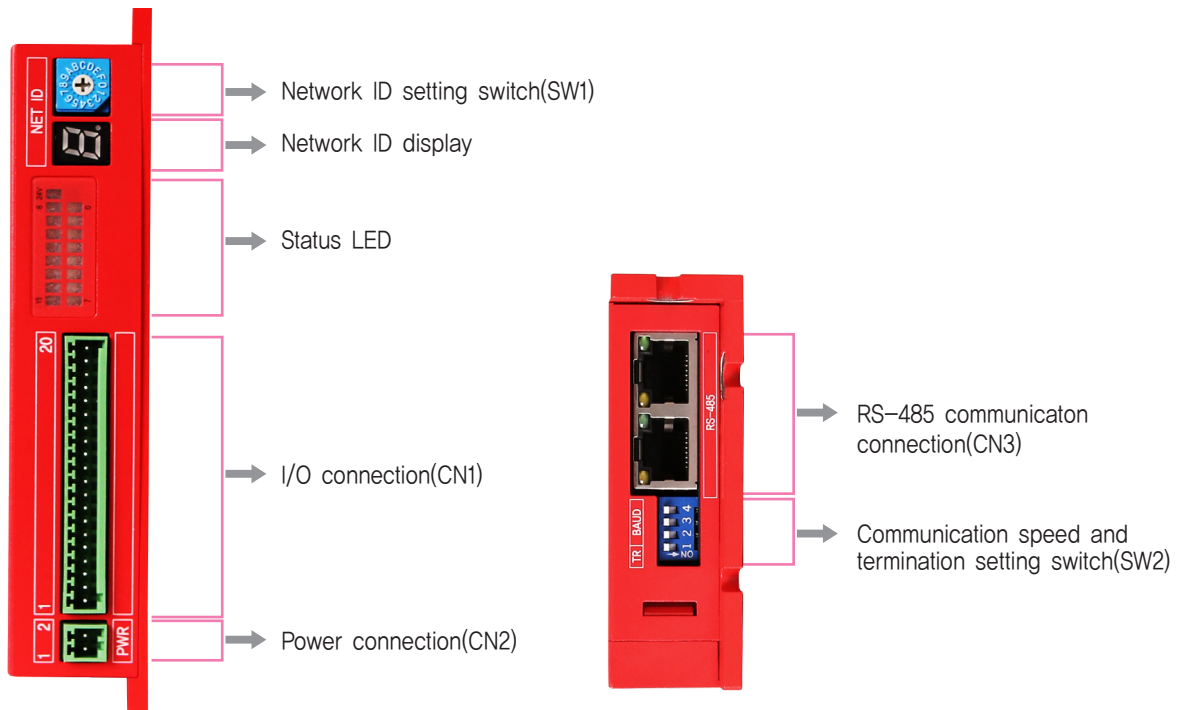
● Specifications of Module

Module Series		Ezi-IO-PR series		
Module Name		Ezi-IO-PR-I16 series	Ezi-IO-PR-O16 series	Ezi-IO-PR-I808 series
Input Voltage		24VDC $\pm$ 10%		
Control Method		Control with 32bit ARM		
Network Connection		Max 16 channel connection by Daisy-chain		
Current Consumption		Max 500mA		
Operating Condition	Ambient Temperature	· In Use: 0~50°C · In Storage: -20~70°C		
	Humidity	· In Use: 35~85% RH (Non-Condensing) · In Storage: 10~90% RH (Non-Condensing)		
	Vib. Resist.	0.5g		
Function	Input Signal	16CH Input (Photocoupler Input, NPN/PNP) Latch for 16CH (Rising/Falling) Latch Pulse Width: Min, 25 μ sec Latch counter for 16CH 24VDC : Max, 10mA/CH	-	8CH Input (Photo coupler input, NPN / PNP) Latch for 8CH input (Rising / Falling) Latch Pulse Width: Min, 25 μ se Latch counter for 8CH input 24VDC: Max, 10mA / CH
	Output Signal	-	16CH Output (Photocoupler Isolation, FET Output) Trigger output for 16CH (Setting for each channel) - 50% Duty, Pulse Width = Min, 1 msec 24VDC : Max, 200mA/CH - under full operating condition	8CH output (Photo coupler isolation, FET output) Trigger output function for 8CH output (can be set in CH units) - 50% Duty, Pulse Width = Min, 1 msec 24VDC: Max, 200mA/CH - Simultaneous operation based for all contacts
	LED Display	Input power status(Red) Input status(Green)	Output power status (Red) Output status (Green)	Power status (Red) I/O status (Green)
Communication Protocol		RS-485 Serial communication, 9,600~921,600 [bps]		
User Program		Windows based User interface program		
Library		Library(DLL) for Windows XP/7/8/10		

● Dimensions of Module [mm]



● Settings and Operation



1. Status LED

Indication	Color	Function	ON/OFF Condition
24V	Red	Ext 24V Power	LED is turned ON when power is applied
0~15	Green	In/Out status	Input On : Input signal On Output On : Output signal On

2. Network ID Setting Switch(SW1)

1) Unique ID setting for each module

2) Total 16 number setting (0~F)

Position	ID Number	Position	ID Number
0*1	0	8	8
1	1	9	9
2	2	A	10
3	3	B	11
4	4	C	12
5	5	D	13
6	6	E	14
7	7	F	15

*1 : Default settings



3. Communication Speed and Termination Setting Switch(SW2)

Termination Setting Switch(SW2.1)

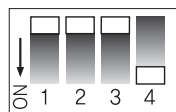
The module installed at the end of the network must be terminated for reliable operation. Please termination setting switch is ON if module installed at the end of the network.

Speed Setting Switch(SW2.2~SW2.4)

SW2.2~SW2.4 used for setting speed as follows

SW2.1	SW2.2	SW2.3	SW2.4	Baud Rate [bps]
—	OFF	OFF	OFF	9,600
—	ON	OFF	OFF	19,200
—	OFF	ON	OFF	38,400
—	ON	ON	OFF	57,600
—	OFF	OFF	ON	115,200*1
—	ON	OFF	ON	230,400
—	OFF	ON	ON	460,800
—	ON	ON	ON	921,600

*1 : Default setting value



Termination setting switch
Speed setting switch

4. I/O Connector(CN1)

◆ Input Module

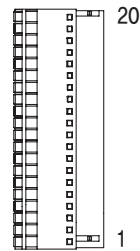
NO.	Function	I/O
1	EXT_24VDC	Input
2	EXT_24VDC	Input
3	Input0	Input
4	Input1	Input
5	Input2	Input
6	Input3	Input
7	Input4	Input
8	Input5	Input
9	Input6	Input
10	Input7	Input
11	Input8	Input
12	Input9	Input
13	Input10	Input
14	Input11	Input
15	Input12	Input
16	Input13	Input
17	Input14	Input
18	Input15	Input
19	EXT_GND	Input
20	EXT_GND	Input

◆ Output Module

NO.	Function	I/O
1	EXT_24VDC	Input
2	EXT_24VDC	Input
3	Output0	Output
4	Output1	Output
5	Output2	Output
6	Output3	Output
7	Output4	Output
8	Output5	Output
9	Output6	Output
10	Output7	Output
11	Output8	Output
12	Output9	Output
13	Output10	Output
14	Output11	Output
15	Output12	Output
16	Output13	Output
17	Output14	Output
18	Output15	Output
19	EXT_GND	Input
20	EXT_GND	Input

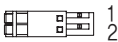
◆ I/O Module

NO.	Function	I/O
1	EXT_24VDC	Input
2	EXT_24VDC	Input
3	Input0	Input
4	Input1	Input
5	Input2	Input
6	Input3	Input
7	Input4	Input
8	Input5	Input
9	Input6	Input
10	Input7	Input
11	Output0	Output
12	Output1	Output
13	Output2	Output
14	Output3	Output
15	Output4	Output
16	Output5	Output
17	Output6	Output
18	Output7	Output
19	EXT_GND	Input
20	EXT_GND	Input



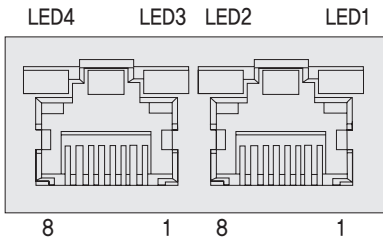
5. Power Connector(CN2)

NO.	Function	I/O
1	24VDC	Input
2	GND	Input

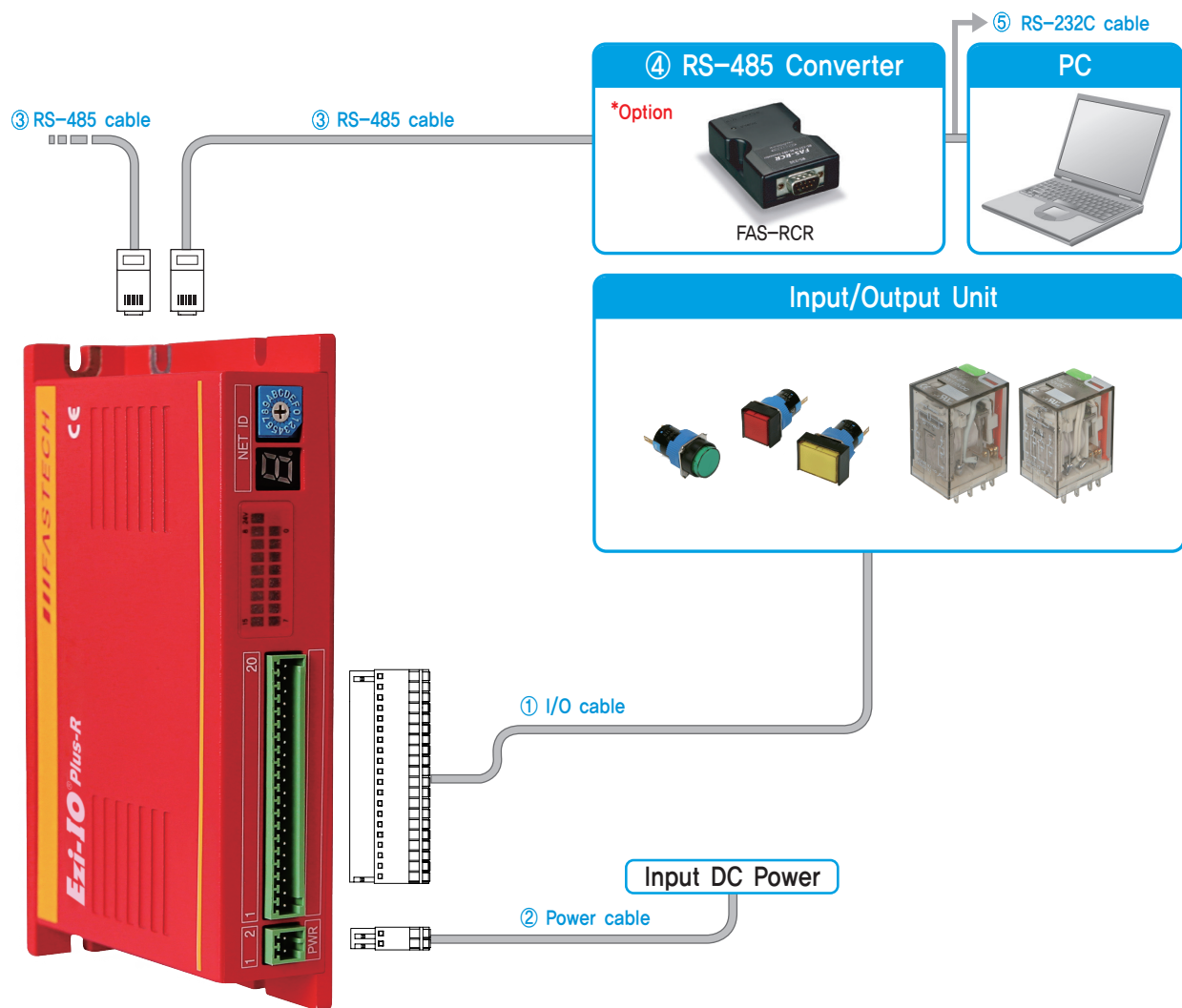


6. RS-485 Communication Connector(CN3)

NO.	Function	NO.	Function
1	GND	6	Data-
2	GND	7	GND
3	Data+	8	GND
4	GND	LED 1, 3	Module status
5	GND	LED 2, 4	Communication status



System Configuration



Type	I/O Cable	Power Cable	RS-485 Cable
Length supplied	—	—	—
Max. Length	20m	2m	30m

1. Options

① RS-485 Cable

Available to connect between the modules of Ezi-IO Plus-R or with FAS-RCR..

Item	Length [m]	Remark
CGNR-R-0R6F	0.6	Normal Cable
CGNR-R-001F	1	
CGNR-R-1R5F	1.5	
CGNR-R-002F	2	
CGNR-R-003F	3	
CGNR-R-005F	5	

② FAS-RCR(RS-232C to RS-485 Converter)

Item	Specification
Comm. Speed	Max. 115.2 [kbps]
Comm. Distance	RS-232C : Max. 15m RS-485 : Max. 1.2km
Connection Type	RS-232C : DB9 Female RS-485 : RJ-45
Dimension	50X75X23mm
Weight	38g
Power	RS-232C Self Power (Usable for external DC5~24V)

③ RS-232C Cable

Available to connect between RS-232C port of master and FAS-RCR

Item	Length [m]	Remark
CGNR-C-002F	2	Normal Cable
CGNR-C-003F	3	
CGNR-C-005F	5	

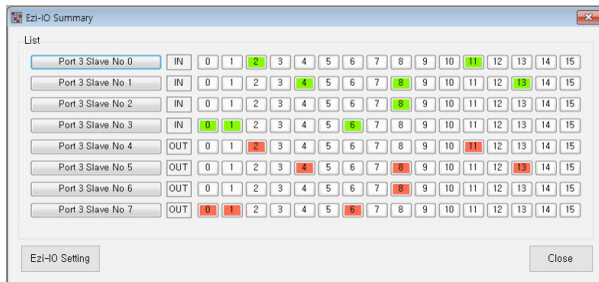
2. Connector Specifications

Connector specifications for cabling to module.

Purpose	Item	Part Number	Manufacturer
Power (CN2)	Terminal Block	RSC250V-02P	DINKLE
I/O (CN1)	Terminal Block	RSC250V-20P	DINKLE

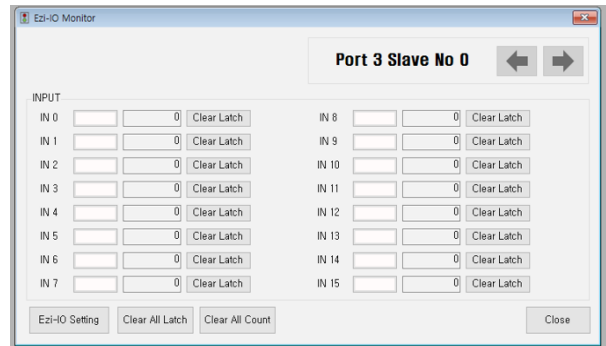
※ Above connector is the most suitable product for the module applied. Another equivalent connector can be used.

● GUI(Graphic User Interface) Screenshot



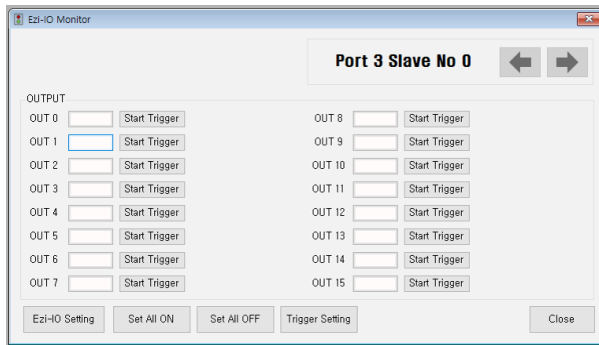
◆ Ezi-IO Summary

In/out status of connected in/out board can be monitored at once.



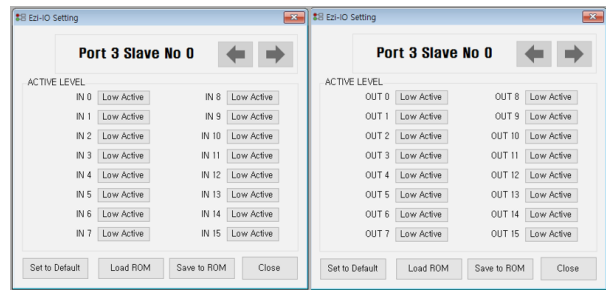
◆ Ezi-IO-PR-I16 series Monitoring

Current input status and Latch status can be monitored.



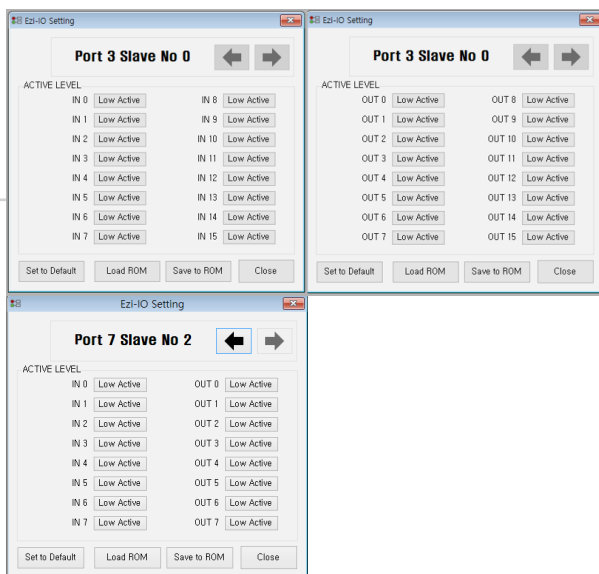
◆ Ezi-IO-PR-O16 series Monitoring

Control and state of each output can be monitored.



◆ Ezi-IO-PR-I808 Series Monitoring

Current input status and Latch status can be checked. Control and status of each output can be checked.



◆ I/O Logic Setting

It can be selected the level of the actual signal to recognize the input / output signal as [ON] state, and all changes can be saved and loaded.

● Remark (NPN / PNP / SINK / SOURCE)

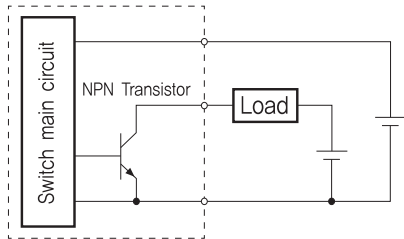


Fig1. NPN Out type interface

Fig1, shows example of NPN out interface. When Transistor On, Load current is flew into inside of NPN out which we call it as SINK type or NPN open collector type. Please connect (+) voltage into the load which connects output.

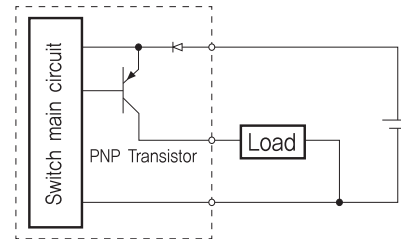


Fig2. PNP Out type interface

Fig2, shows example of PNP out interface. When Transistor ON, Load current is flew out to outside load. We call it as SOURCE type or PNP open collector type. Please connect (-) voltage into other side of load which connects output.



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