Remote I/O Unit

For SEL Related Controllers

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Introducing the Remote I/O Unit, Which Allows You to Easily Expand the Number of I/O Points on the Controller

1. Capable of Expanding the Number of I/O Points on the Controller

The remote I/O units have input-only model (IN specification) and output-only model (OUT specification), and each are equipped with 32 I/O points.
You can install a maximum of 8 units (Note 1) each of the IN specification and OUT specification models, for a total of 16 units.
The maximum expansion is 256 points (Note 1) for input and 256 points for output.

Note 1: In the case of SSEL (MSEL and TTA allow a maximum of 7 units each, with 224 points each of input and output points)
Note 2: There are two units of the terminal resistance enclosed if IA (IA Net connection board) is selected in the I/O type in the controller model code.

2. Small Product Size
Easy Installation with DIN Rails

The product size is very compact at 25mm (Width) by 90mm (Height) by 98mm (Depth).
Installation is very simple using DIN rail mounts.
Easy Connection and Less Cables

Connection between the controller and remote I/O units and among remote I/O units can be conducted with general LAN cables (with Category 5 or higher).

■ When Remote I/O Units Are Not Used

As the connection between the controller and the terminal block is to be conducted with I/O cable, it is necessary to pay attention to the wiring layout of the cable.

■ When Remote I/O Units Are Used

I/O cable can be short, and the connection between the controller and I/O units can be conducted with just one LAN cable, which makes the wiring layout nice and tidy.

The Front Panel LED Lights Make Unit Status Apparent

The status of the unit can be checked on the status LED lamps mounted in the front panel.

■ PIO input terminal status
■ PIO output terminal status
■ Error status, etc.

Compatible Controllers

The remote I/O unit is compatible with three controllers: the SSEL, MSEL, and TTA.
# Remote I/O Unit

## Model List

<table>
<thead>
<tr>
<th>Name</th>
<th>Remote I/O Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td></td>
</tr>
<tr>
<td>Input Unit (IN Specification)</td>
<td>Output Unit (OUT Specification)</td>
</tr>
<tr>
<td>External View</td>
<td></td>
</tr>
<tr>
<td>Standard Price</td>
<td>-</td>
</tr>
</tbody>
</table>

## Model Code

**EIOU** Series

<table>
<thead>
<tr>
<th>I/O type</th>
<th>I/O cable length</th>
</tr>
</thead>
<tbody>
<tr>
<td>N4</td>
<td>Input 32/NPN</td>
</tr>
<tr>
<td>N5</td>
<td>Output 32/NPN</td>
</tr>
<tr>
<td>P4</td>
<td>Input 32/PNP</td>
</tr>
<tr>
<td>P5</td>
<td>Output 32/PNP</td>
</tr>
<tr>
<td>0</td>
<td>No cable</td>
</tr>
<tr>
<td>2</td>
<td>2m (Standard)</td>
</tr>
<tr>
<td>3</td>
<td>3m</td>
</tr>
<tr>
<td>5</td>
<td>5m</td>
</tr>
</tbody>
</table>

## Specifications

<table>
<thead>
<tr>
<th>Items</th>
<th>Specifications (IN / OUT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Voltage</td>
<td>DC24V</td>
</tr>
<tr>
<td>Operating Voltage Range</td>
<td>DC21.6 – 26.4V</td>
</tr>
<tr>
<td>Current Consumption</td>
<td>IN: 0.16A max. / OUT: 1.6A max.</td>
</tr>
<tr>
<td>Number of I/O Points</td>
<td>IN: 32 points / OUT: 32 points</td>
</tr>
<tr>
<td>Communication Method</td>
<td>Half-duplex multi-drop</td>
</tr>
<tr>
<td>Baud Rate</td>
<td>IN: 12mbps / OUT: 3mbps</td>
</tr>
<tr>
<td>Number of Connectable Units</td>
<td>IN: 8 units max. / OUT: 8 units max. (SSEL) IN: 7 units max. / OUT: 7 units max. (MSEL &amp; TTA)</td>
</tr>
<tr>
<td>Communication Cycle Time</td>
<td>IN: 0.627msec (baud rate: 12mbps) OUT: 2.508msec (baud rate: 3mbps)</td>
</tr>
<tr>
<td>Total Cable Length (IA Net Connection)</td>
<td>IN: 100m (baud rate: 12mbps) OUT: 300m (baud rate: 3mbps)</td>
</tr>
<tr>
<td>Size</td>
<td>25mm (W) × 90mm (H) × 98mm (D)</td>
</tr>
<tr>
<td>Weight</td>
<td>87g</td>
</tr>
<tr>
<td>Electric Shock Protection</td>
<td>Class1 basic insulation</td>
</tr>
<tr>
<td>Insulation Resistance</td>
<td>DC500V 10mΩ</td>
</tr>
<tr>
<td>Installation Method</td>
<td>DIN rail mount</td>
</tr>
<tr>
<td>Ambient Operating Temperature</td>
<td>0 ~ 40°C</td>
</tr>
<tr>
<td>Ambient Operating Humidity</td>
<td>20 ~ 85% RH (non-condensing)</td>
</tr>
</tbody>
</table>
Remote I/O Unit

Part Names

1. I/O connector
   This connector allows 32 points of input or output control signals to be connected.

2. Station address setting switch (SA rotary switch)
   This sets the station address. For both the IN and OUT specifications, you can set the position of the rotary switch starting from 0 and up.

3. Main unit setting DIP switch
   Switch 1 sets the baud rate of the network.

4. Status LED 1 display changeover rotary switch (STS rotary switch)
   This changes the information displayed on Status LED 1.

5. FG grounding terminal
   This is a terminal to connect the grounding line to prevent electric shock and noise.

6. Main unit setting confirmation LED
   This will turn on in green while main unit setting confirmation switch is pressed.

7. Main unit setting confirmation switch
   After changing the position of the stationary address switch or the baud rate setting switch, pressing this switch will make the changes effective. There is no need to reboot the unit.

8. Status LED 1
   This displays the status of the product in response to the position set with STS rotary switch. Refer to the instruction manual for details.

9. Status LED 2
   This displays the normal / error status in the communication. Refer to the instruction manual for details.

10. Status LED 3
    Positions of STS rotary switch are displayed with RS0, RS1 and RS2 LED lamps. Refer to the instruction manual for details.

11. 24V Power supply connector
    This is a connector to supply DC24V power to the controller.

12. IA Net connector
    This connects an IA Net communication cable or terminal resistor. Please connect a terminal resistor to the master controller or remote I/O unit that will be the end of the network.

Dimensions

Operation Range of DIN Mounting Feature = 5mm
Remote I/O Unit

**I/O Specification**

### Input Unit (IN Specification)

<table>
<thead>
<tr>
<th>Specification Items</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Points</td>
<td>32 points</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>DC24V ±10%</td>
</tr>
<tr>
<td>Input Current</td>
<td>5mA/circuit</td>
</tr>
<tr>
<td>Current Leakage</td>
<td>1mA/point max.</td>
</tr>
<tr>
<td>Insulation System</td>
<td>Not insulated</td>
</tr>
</tbody>
</table>

**[NPN Specification]**

![NPN Specification Diagram]

**[PNP Specification]**

![PNP Specification Diagram]

### Output Unit (OUT Specification)

<table>
<thead>
<tr>
<th>Specification Items</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output Points</td>
<td>32 points</td>
</tr>
<tr>
<td>Rated Load Voltage</td>
<td>DC24V ±10%</td>
</tr>
<tr>
<td>Max. Current</td>
<td>50mA/point</td>
</tr>
<tr>
<td>Residual Voltage</td>
<td>2V or less</td>
</tr>
<tr>
<td>Insulation System</td>
<td>Not insulated</td>
</tr>
</tbody>
</table>

**[NPN Specification]**

![NPN Specification Diagram]

**[PNP Specification]**

![PNP Specification Diagram]
Remote I/O Unit

Model Code Description of Connectable Controllers

- Currently, the controllers available to connect remote I/O units are “SSEL”, “MSEL” and “TTA” shown below.
- If connection to remote I/O units is required, put “IA” to the place to indicate I/O in the controller model code.

### SSEL

<table>
<thead>
<tr>
<th>Series</th>
<th>Type</th>
<th>Number of connected axes</th>
<th>Motor type</th>
<th>Option</th>
<th>Power-supply type</th>
<th>Simple absolute unit</th>
<th>Actuator mounting specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS</td>
<td>Standard type</td>
<td>CS type</td>
<td>Incremental</td>
<td>A</td>
<td>Absolute</td>
<td>Single-phase AC100V</td>
<td>Blank</td>
</tr>
<tr>
<td></td>
<td>1-axes specification</td>
<td>1</td>
<td>NPN spec.</td>
<td>PN</td>
<td>PNP</td>
<td>DIN rail mounting specification</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-axes specification</td>
<td>2</td>
<td>SA</td>
<td>Simple absolute spec.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### MSEL

<table>
<thead>
<tr>
<th>Series</th>
<th>Type</th>
<th>Number of connected axes</th>
<th>Motor type</th>
<th>Option</th>
<th>Standard I/O type</th>
<th>Expansion I/O type</th>
<th>Power-supply voltage</th>
<th>Simple absolute unit</th>
<th>Actuator mounting specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>Standard type</td>
<td>PC type</td>
<td>Battery-less absolute spec.</td>
<td>Incremental spec.</td>
<td>NPN spec.</td>
<td>PNP spec.</td>
<td>AC100–230</td>
<td>Blank</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Safety category</td>
<td>1</td>
<td>Battery-less absolute spec.</td>
<td>Incremental spec.</td>
<td>NPN spec.</td>
<td>PNP spec.</td>
<td>AC100–230</td>
<td>Blank</td>
<td></td>
</tr>
<tr>
<td></td>
<td>compliant type</td>
<td>2</td>
<td>SA</td>
<td>Simple absolute spec.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>3 axes spec.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4 axes spec.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Battery-less absolute and incremental types cannot be used with simple absolute. When using the simple absolute, other axes also need to be simple absolute types.*

### SC-Unit

<table>
<thead>
<tr>
<th>Number of axes</th>
<th>Motor type</th>
<th>Option</th>
<th>Power-supply type</th>
<th>Simple absolute unit</th>
<th>Actuator mounting specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>150W motor</td>
<td>1</td>
<td>Single-phase AC100V</td>
<td>Blank</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>200W motor</td>
<td>2</td>
<td>DIN rail mounting specification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>300W motor</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>500W motor</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*If DV, CC or PR is selected for the I/O type, select “0” for the I/O cable length.*
Model Code Description of Connectable Controllers (Continued)

<table>
<thead>
<tr>
<th>Series</th>
<th>Type</th>
<th>X-axis contents</th>
<th>Y-axis contents</th>
<th>Z-axis contents</th>
<th>R-axis contents</th>
<th>Standard I/O slot</th>
<th>Expansion I/O slot 1</th>
<th>Expansion I/O slot 2</th>
<th>I/O cable length</th>
<th>Power supply cable</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TTA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Incremental</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A1</td>
<td>A1G</td>
<td>2-axis Gate Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>A2G</td>
<td>3-axis Gate Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>A3G</td>
<td>4-axis Gate Type</td>
<td>180 deg. spec.</td>
<td>R360 deg. spec.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>C1G</td>
<td>2-axis Cantilever Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2</td>
<td>C2G</td>
<td>3-axis Cantilever Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C3</td>
<td>C3G</td>
<td>4-axis Cantilever Type</td>
<td></td>
<td>180 deg. spec.</td>
<td>R360 deg. spec.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: Select standard specification when it is necessary to apply for CE marking or Safety Category IIb/III.*

<table>
<thead>
<tr>
<th>X-axis stroke</th>
<th>X-axis option</th>
<th>Y-axis stroke</th>
<th>Y-axis option</th>
<th>Z-axis stroke</th>
<th>Z-axis option</th>
<th>R-axis stroke</th>
<th>R-axis option</th>
<th>Y-axis height and horizontal position change and additional option</th>
<th>Installation bracket options</th>
<th>Side slot options</th>
<th>Side plate options</th>
<th>Operation part option</th>
<th>Z-axis position change option</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>200mm</td>
<td>20</td>
<td>200mm</td>
<td>10</td>
<td>100mm</td>
<td>18L ±180 deg.</td>
<td>18L ±180 deg.</td>
<td>Y-axis mounting position height 500mm up</td>
<td>FT4 Foot brake equipped specification (4 pcs)</td>
<td>SLT9 Side slot 180mm installation specification</td>
<td>PTH Installation side plate (with hole)</td>
<td>OS Detachable operation console</td>
<td>FZ Z-axis attached position 64.5mm forward</td>
</tr>
<tr>
<td>30</td>
<td>300mm</td>
<td>30</td>
<td>300mm</td>
<td>15</td>
<td>150mm</td>
<td>36L ±360 deg.</td>
<td>36L ±360 deg.</td>
<td>Y-axis mounting position height 1000mm up</td>
<td>FT5 Foot brake equipped specification (8 pcs)</td>
<td>SLT1 Side slot 180mm installation specification</td>
<td>PTN Installation side plate (without hole)</td>
<td>OS Detachable operation console</td>
<td>FZ Z-axis attached position 64.5mm forward</td>
</tr>
<tr>
<td>40</td>
<td>400mm</td>
<td>40</td>
<td>400mm</td>
<td>20</td>
<td>200mm</td>
<td></td>
<td></td>
<td>Y-axis mounting position height 1500mm up</td>
<td>FT6 Foot brake equipped specification (12 pcs)</td>
<td>SLT2 Side slot 180mm installation specification</td>
<td></td>
<td>OS Detachable operation console</td>
<td>FZ Z-axis attached position 64.5mm forward</td>
</tr>
<tr>
<td>50</td>
<td>500mm</td>
<td>50</td>
<td>500mm</td>
<td>30</td>
<td>300mm</td>
<td></td>
<td></td>
<td>Y-axis mounting position height 2000mm up</td>
<td>FT7 Foot brake equipped specification (16 pcs)</td>
<td>SLT3 Side slot 180mm installation specification</td>
<td></td>
<td>OS Detachable operation console</td>
<td>FZ Z-axis attached position 64.5mm forward</td>
</tr>
</tbody>
</table>

*Note: The EtherNet/IP connection board can be connected only in expansion slot 1. If another board is also used, it is installed in expansion slot 2.*

**Encoder type:**
- Incremental
- Encoder type: I
- Encoder type: N
- Encoder type: P
- Encoder type: E

**Power supply cable:**
- Option: No cable
- Option: 2m
- Option: 3m
- Option: 5m

**Installation bracket options:**
- FT4 Foot brake equipped specification (4 pcs)
- FT5 Foot brake equipped specification (8 pcs)
- FT6 Foot brake equipped specification (12 pcs)
- FT7 Foot brake equipped specification (16 pcs)

**Side slot options:**
- SLT9 Side slot 180mm installation specification
- SLT1 Side slot 180mm installation specification
- SLT2 Side slot 180mm installation specification
- SLT3 Side slot 180mm installation specification

**Side plate options:**
- PTH Installation side plate (with hole)
- PTN Installation side plate (without hole)

**Operation part options:**
- OS Detachable operation console

**Z-axis position change option:**
- FZ Z-axis attached position 64.5mm forward