# INSTRUCTION MANUAL

### PNP TRANSISTOR OUTPUT EXTENSION MODULE, 16 points (Ethernet Modbus/TCP)

# MODEL R7E-EC16B

### BEFORE USE ....

Thank you for choosing us. Before use, please check contents of the package you received as outlined below. If you have any problems or questions with the product, please contact our sales office or representatives.

#### ■ PACKAGE INCLUDES:

Discrete output extension module.....(1)

#### MODEL NO.

Confirm that the model number described on the product is exactly what you ordered.

#### ■ INSTRUCTION MANUAL

This manual describes necessary points of caution when you use this product, including installation, connection and basic maintenance procedures.

## **POINTS OF CAUTION**

#### ■ CONFORMITY WITH EU DIRECTIVES

• The actual installation environments such as panel configurations, connected devices and connected wires may affect the protection level of this unit when it is integrated in a panel system. The user may have to review the CE requirements in regard to the whole system and employ additional protective measures to ensure CE conformity.

#### ■ POWER INPUT RATING & OPERATIONAL RANGE

• Locate the power input rating marked on the product and confirm its operational range as indicated below: 24V DC rating: 24V ±10%, approx. 20mA

#### ■ GENERAL PRECAUTIONS

• Before you remove the unit or mount it, turn off the power supply and output signal for safety.

#### ■ ENVIRONMENT

- Indoor use.
- When heavy dust or metal particles are present in the air, install the unit inside proper housing with sufficient ventilation.
- Do not install the unit where it is subjected to continuous vibration. Do not subject the unit to physical impact.
- $\bullet$  Environmental temperature must be within -10 to +55°C (14 to 131°F) with relative humidity within 30 to 90% RH in order to ensure adequate life span and operation.

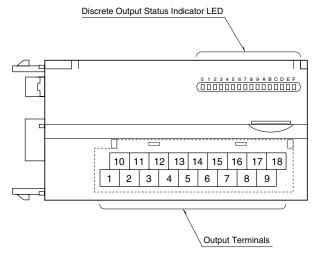
#### WIRING

- Do not install cables close to noise sources (relay drive cable, high frequency line, etc.).
- Do not bind these cables together with those in which noises are present. Do not install them in the same duct.

#### ■ AND ....

• The unit is designed to function as soon as power is supplied, however, a warm up for 10 minutes is required for satisfying complete performance described in the data sheet.

# **COMPONENT IDENTIFICATION**



#### ■ DISCRETE OUTPUT STATUS INDICATOR LED

Discrete output extension modules have LED indicators showing output signal status.

Contact ON: LED ON Contact OFF: LED OFF

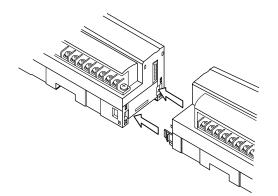
#### ■ OUTPUT TERMINAL ASSIGNMENT

| 10 |  | 11   |  | 12 |    | 13 |    | 14 |    | 15 |    |    | 16 |    | 17 |    | 18 |  |
|----|--|------|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| +2 |  | 4V Y |  | 1  | Y3 |    | Y5 |    | Y7 |    | Y9 |    | YB |    | YD |    | YF |  |
| 1  |  | 2    |  | 3  |    |    |    | 5  |    | 6  |    | 7  |    | 8  |    | 9  |    |  |
| 0V |  | Y0   |  | Y2 |    | Y4 |    | Y6 |    | Y8 |    | YA |    | YC |    | YE |    |  |

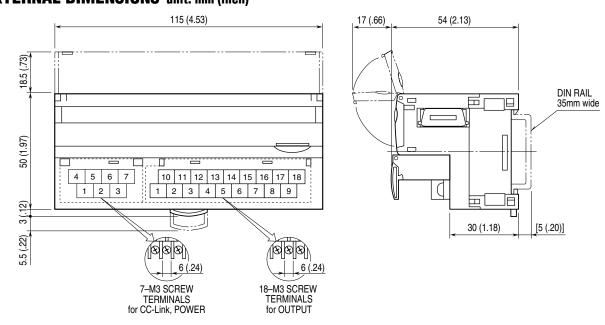
| NO. ID FUNCTION NO. ID FUNCTION   1 0V 0V 10 +24V 24V DC (common)   2 Y0 Output 0 11 Y1 Output 1   3 Y2 Output 2 12 Y3 Output 3   4 Y4 Output 4 13 Y5 Output 5   5 Y6 Output 6 14 Y7 Output 7   6 Y8 Output 10 16 YB Output 11   8 YC Output 12 17 YD Output 13   9 YE Output 14 18 YF Output 15 |     |    |           |     |      |                 |
|--|-----|----|-----------|-----|------|-----------------|
| 2 Y0 Output 0 11 Y1 Output 1   3 Y2 Output 2 12 Y3 Output 3   4 Y4 Output 4 13 Y5 Output 5   5 Y6 Output 6 14 Y7 Output 7   6 Y8 Output 10 16 YB Output 11   8 YC Output 12 17 YD Output 13  | NO. | ID | FUNCTION  | NO. | ID   | FUNCTION        |
| 3 Y2 Output 2 12 Y3 Output 3   4 Y4 Output 4 13 Y5 Output 5   5 Y6 Output 6 14 Y7 Output 7   6 Y8 Output 10 16 YB Output 11   8 YC Output 12 17 YD Output 13   | 1   | 0V | 0V        | 10  | +24V | 24V DC (common) |
| 4 Y4 Output 4 13 Y5 Output 5   5 Y6 Output 6 14 Y7 Output 7   6 Y8 Output 8 15 Y9 Output 9   7 YA Output 10 16 YB Output 11   8 YC Output 12 17 YD Output 13   | 2   | Y0 | Output 0  | 11  | Y1   | Output 1        |
| 5 Y6 Output 6 14 Y7 Output 7   6 Y8 Output 8 15 Y9 Output 9   7 YA Output 10 16 YB Output 11   8 YC Output 12 17 YD Output 13  | 3   | Y2 | Output 2  | 12  | Y3   | Output 3        |
| 6 Y8 Output 8 15 Y9 Output 9   7 YA Output 10 16 YB Output 11   8 YC Output 12 17 YD Output 13   | 4   | Y4 | Output 4  | 13  | Y5   | Output 5        |
| 7 YA Output 10 16 YB Output 11   8 YC Output 12 17 YD Output 13  | 5   | Y6 | Output 6  | 14  | Y7   | Output 7        |
| 8 YC Output 12 17 YD Output 13   | 6   | Y8 | Output 8  | 15  | Y9   | Output 9        |
|  | 7   | YA | Output 10 | 16  | YB   | Output 11       |
| 9 YE Output 14 18 YF Output 15   | 8   | YC | Output 12 | 17  | YD   | Output 13       |
|  | 9   | YE | Output 14 | 18  | YF   | Output 15       |

# **CONNECTING THE EXTENSION MODULE**

- 1) Remove the extension connector cover located at the side of the basic module.
- 2) Connect the extension module.



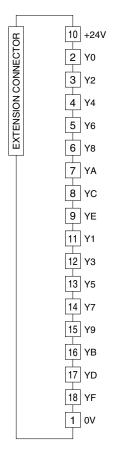
3) Mount the combined module on a DIN rail.



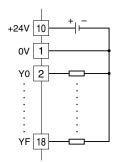
# EXTERNAL DIMENSIONS unit: mm (inch)

# **CONNECTION DIAGRAM**

Connect the unit as in the diagram below.



#### ■ Output Connection Example



### WIRING INSTRUCTIONS

■ SCREW TERMINAL Torque: 0.5 N·m

#### SOLDERLESS TERMINAL mm (inch)

Refer to the drawing below for recommended ring tongue terminal size. Spade tongue type is also applicable. Solderless terminals with insulation sleeve do not fit. Applicable wire size: 0.25 to 1.65 mm<sup>2</sup> (AWG 22 to 16) Recommended manufacturer: Japan Solderless Terminal MFG.Co.Ltd, Nichifu Co.,ltd

