

**NPN DISCRETE INPUT MODULE, 8 points**  
(Tension clamp terminal block)

MODEL **R80DAT8A**

**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:**

NPN discrete input module .....(1)

**■ MODEL NO.**

Confirm Model No. marking on the product to be 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**

**■ GENERAL PRECAUTIONS**

- Before you remove or mount the unit, turn off the power supply and input signal for safety.
- Switches on the side of the module can be set for maintenance only while the power supply is off. Do not access them while the power is supplied.

**■ 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.
- 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.

**■ EXCITATION SUPPLY**

- Input connector: Rated current 3 A DC (rated current 3 A for internal fuse (slow blow fuse  $i^2t$  (A<sup>2</sup>sec) max. 5.04).

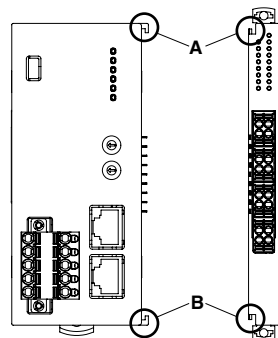
**■ AND ....**

- 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.

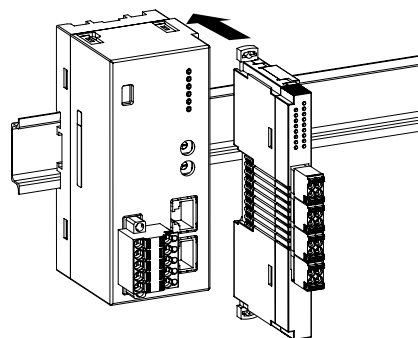
**INSTALLATION**

**■ HOW TO MOUNT THE MODULE ON DIN RAIL**

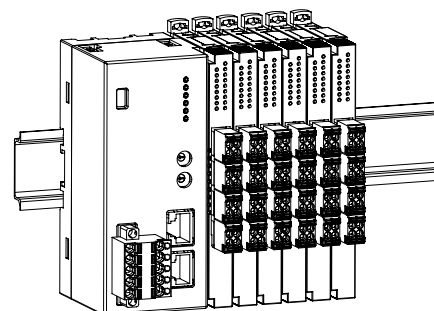
• I/O Module



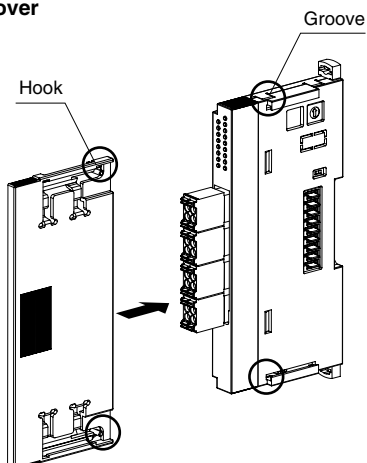
Confirm that the locking clamps of the I/O module are set. Insert the module in parallel to the next one while aligning the grooves of both modules (A & B in the above figure). Maintain it perpendicularly to the rail.



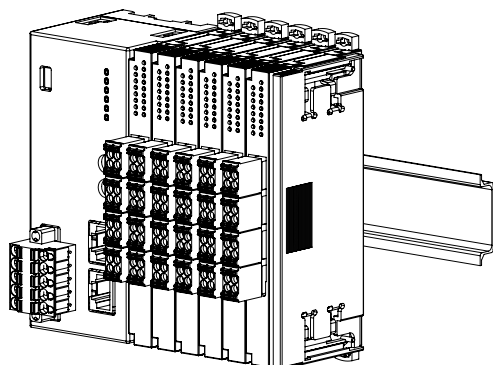
More I/O modules can be added in the same manner.



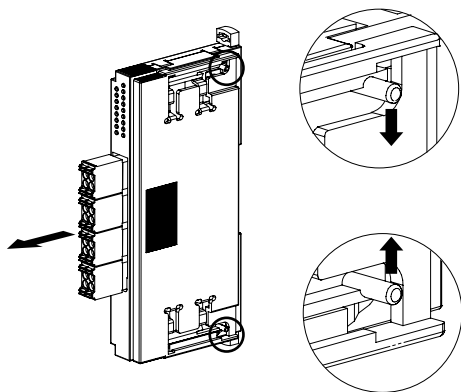
• Protective Cover



The protective cover is to be attached over the connected I/O module at the right end.  
Align the hooks on the cover with the grooves of the module and slide it straight until the hooks are latched.

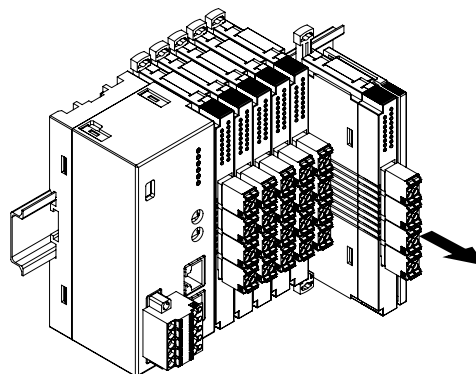
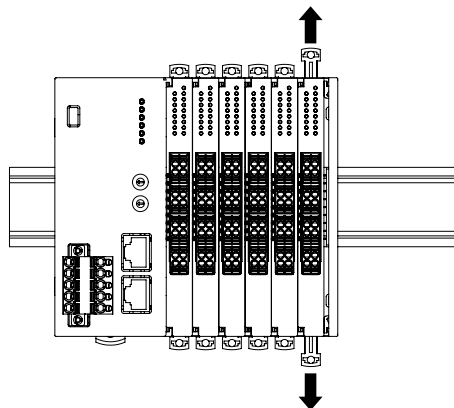


When removing the cover, pull it out while squeezing the hooks inward.

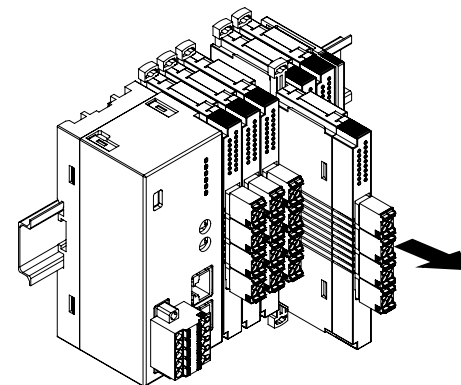
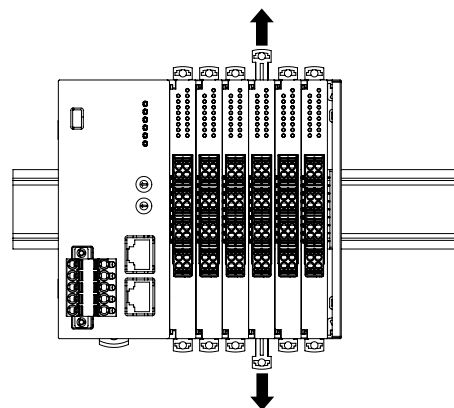


■ HOW TO UNMOUNT THE MODULE FROM DIN RAIL

- Release the locking clamps and pull out straight the module.



- Removing an intermediate module

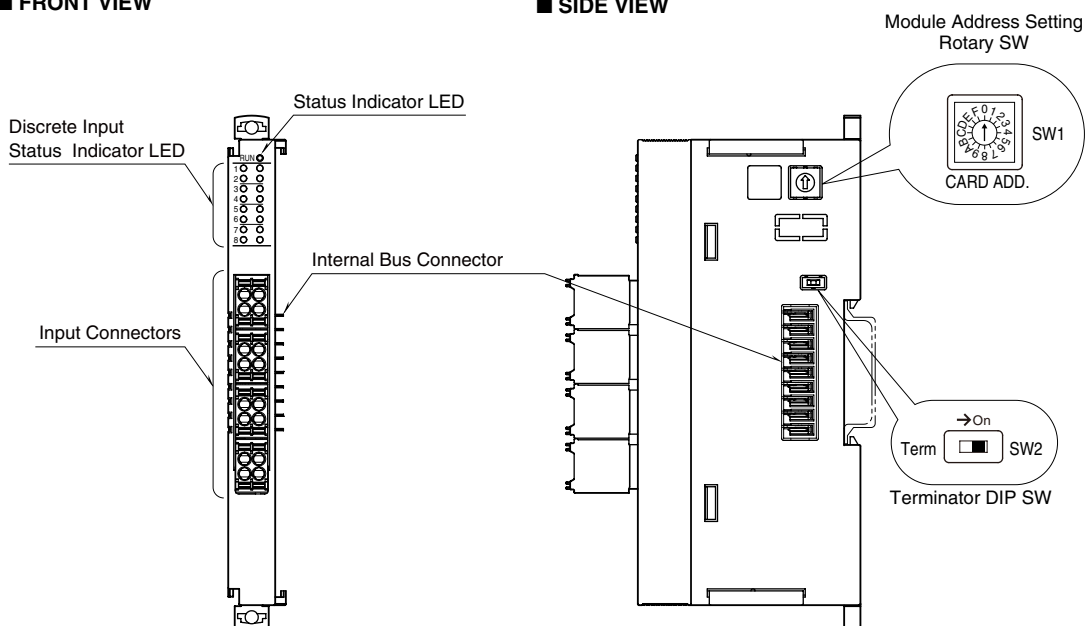


- Note 1: Be careful not to hurt your hand by pointed edges of the internal bus connector.
- Note 2: I/O modules cannot hold tightly on the DIN rail by themselves without power/network module.  
Secure them to the position if necessary by using DIN rail end plates.

## COMPONENT IDENTIFICATION

### ■ FRONT VIEW

### ■ SIDE VIEW



### ■ INDICATOR LED

| LED          | OPERATION                       | FUNCTION  |
|--------------|---------------------------------|---|
| Status       | OFF                             | Upper communication: Stopping or abnormal<br>Internal communication: Normal   |
|              | Red ON                          | Upper communication: Stopping or abnormal<br>Internal communication: Abnormal |
|              | Green ON                        | Upper communication: Normal<br>Internal communication: Normal                 |
|              | Orange ON                       | Upper communication: Normal<br>Internal communication: Abnormal               |
|              | Red Blinking<br>Orange Blinking | Circuit abnormality<br>(blinking in 400 msec. cycle)                          |
| Input Status | OFF                             | Discrete input is OFF.  |
|              | Green ON                        | Discrete input is ON.   |

### ■ INPUT CONNECTOR ASSIGNMENT

|    |      | PIN No. | ID   | FUNCTION              |
|----|------|---------|------|-----------------------|
| 1  | Di 1 | 2       | Di 2 | Input 1               |
| 3  | Di 3 | 4       | Di 4 | Input 2               |
| 5  | Di 5 | 6       | Di 6 | Input 3               |
| 7  | Di 7 | 8       | Di 8 | Input 4               |
| 9  | 0V   | 10      | 0V   | Input 5               |
| 11 | 24V  | 12      | 24V  | Input 6               |
| 13 | NC   | 14      | NC   | Input 7               |
| 15 | NC   | 16      | NC   | Input 8               |
|    |      | 9       | 0V   | Excitation supply 0V  |
|    |      | 10      | 0V   | Excitation supply 0V  |
|    |      | 11      | 24V  | Excitation supply 24V |
|    |      | 12      | 24V  | Excitation supply 24V |
|    |      | 13      | NC   | No connection         |
|    |      | 14      | NC   | No connection         |
|    |      | 15      | NC   | No connection         |
|    |      | 16      | NC   | No connection         |

### ■ MODULE ADDRESS

Module address can be set with rotary SW.

Address is selected between 0 to F.

(Factory setting: 0)

Note: Set the module addresses consecutively starting at 0 such that there is no duplicate or vacant address.

### ■ TERMINATOR DIP SW

| TERMINATOR  | SW2 |
|-------------|-----|
| Without (*) | OFF |
| With        | ON  |

(\*) Factory setting

### ■ PC CONFIGURATOR

The following parameters can be set using PC Configurator Software (model: R80CFG):

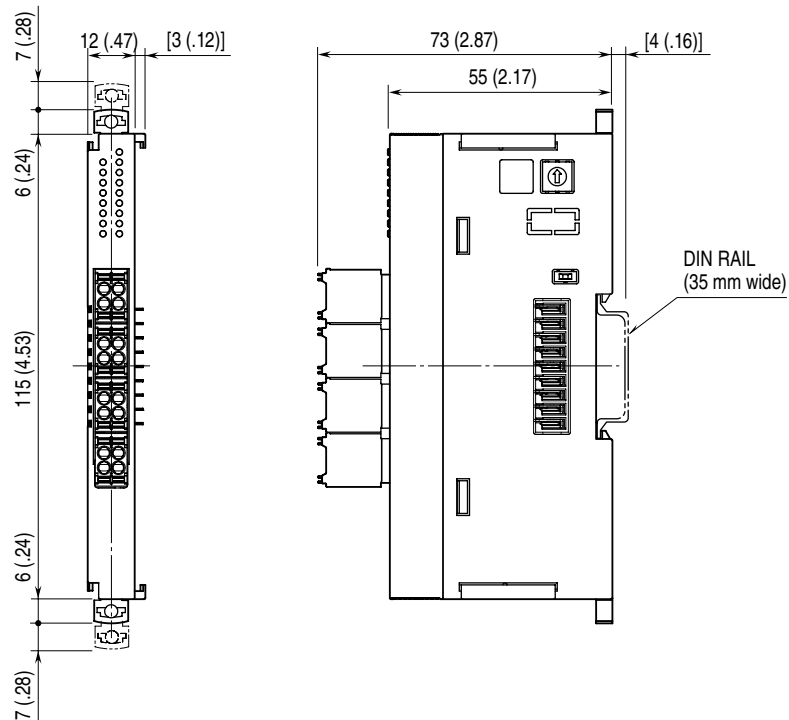
- Sampling cycle: 100  $\mu$ s, 200  $\mu$ s, 400  $\mu$ s, 800  $\mu$ s, 4 ms, 8 ms, 16 ms, 40 ms (Factory setting: 100  $\mu$ s)

Settings are programmed by the PC Configurator via the Power/Network Module. Refer to the users manual for the R80CFG for detailed operation of the software program.

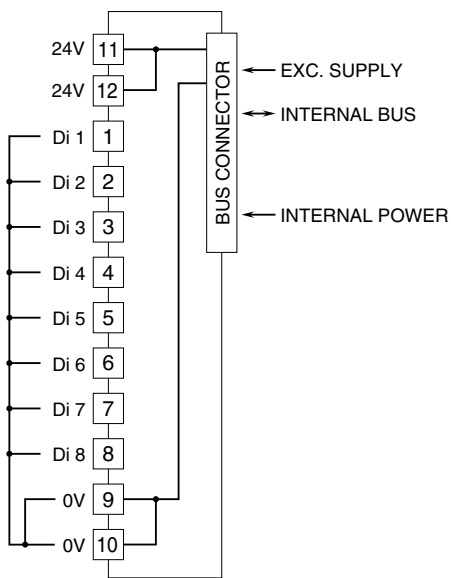
# TERMINAL CONNECTIONS

Connect the unit as in the diagram below.

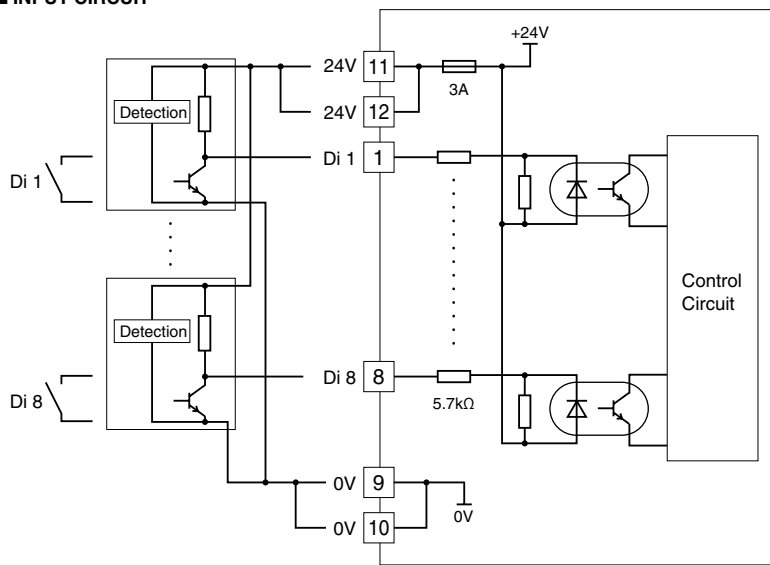
## EXTERNAL DIMENSIONS unit: mm (inch)



## CONNECTION DIAGRAM



## INPUT CIRCUIT



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## WIRING INSTRUCTIONS

### ■ TENSION CLAMP TERMINAL BLOCK

**Unit side connector:** Separable tension clamp terminal

**Cable side connector:** DFMC 1,5/2-ST-3,5  
(Phoenix Contact)

**Applicable wire size:** 0.2 – 1.5 mm<sup>2</sup>

**Stripped length:** 10 mm

#### Recommended solderless terminal

- AI0,25-10YE 0.25 mm<sup>2</sup> (Phoenix Contact)
- AI0,34-10TQ 0.34 mm<sup>2</sup> (Phoenix Contact)
- AI0,5-10WH 0.5 mm<sup>2</sup> (Phoenix Contact)
- AI0,75-10GY 0.75 mm<sup>2</sup> (Phoenix Contact)
- A1-10 1.0 mm<sup>2</sup> (Phoenix Contact)
- A1,5-10 1.5 mm<sup>2</sup> (Phoenix Contact)