

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

MODEL **R80DAT8A**

### BEFORE USE ....

Thank you for choosing M-System. 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 M-System's 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).

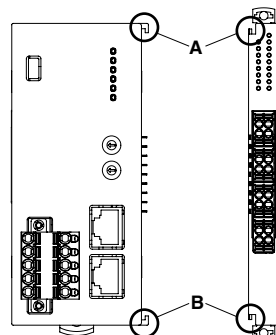
#### ■ AND ....

- 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.

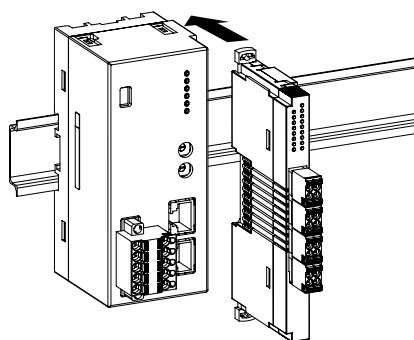
### INSTALLATION

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

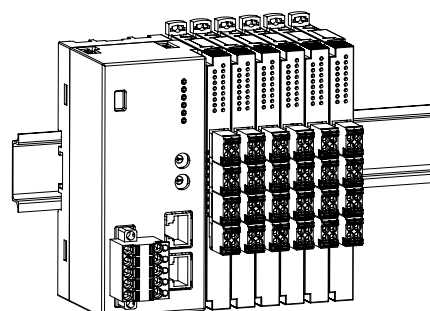
##### • I/O Module



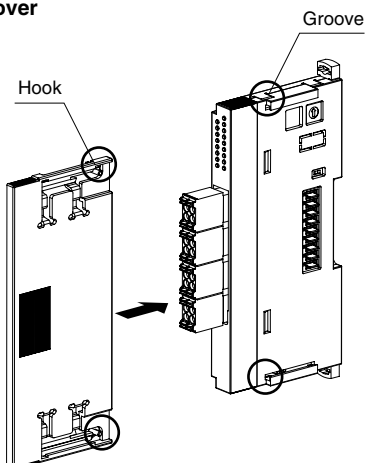
Confirm that the locking clamps of the I/O module are set. Insert the module in parallel to the next one while aligning the grooves of both modules (A & B in the above figure). Maintain it perpendicularly to the rail.



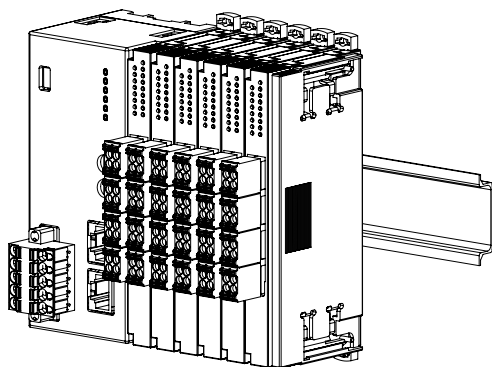
More I/O modules can be added in the same manner.



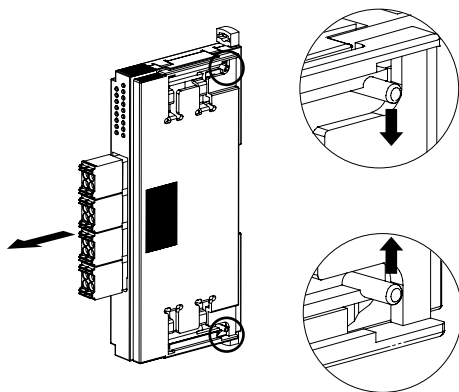
### • Protective Cover



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.

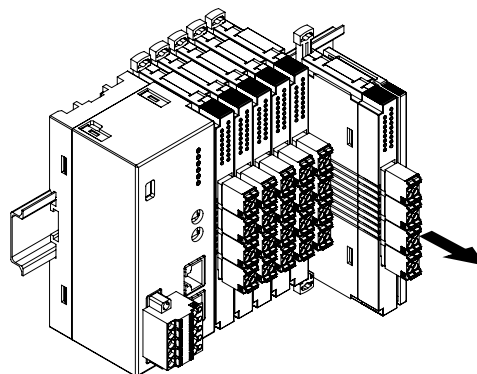
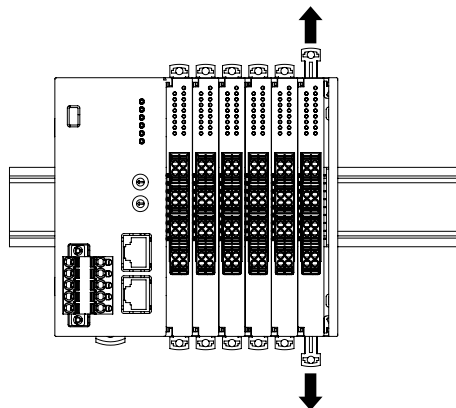


When removing the cover, pull it out while squeezing the hooks inward.

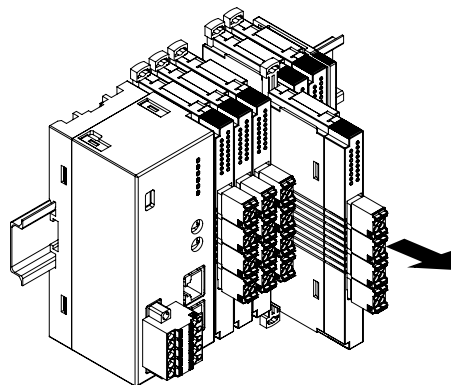
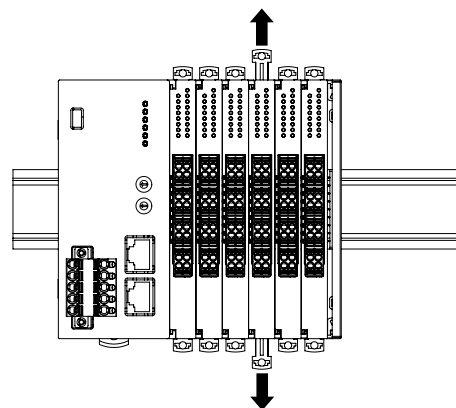


### ■ HOW TO UNMOUNT THE MODULE FROM DIN RAIL

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



- Removing an intermediate module

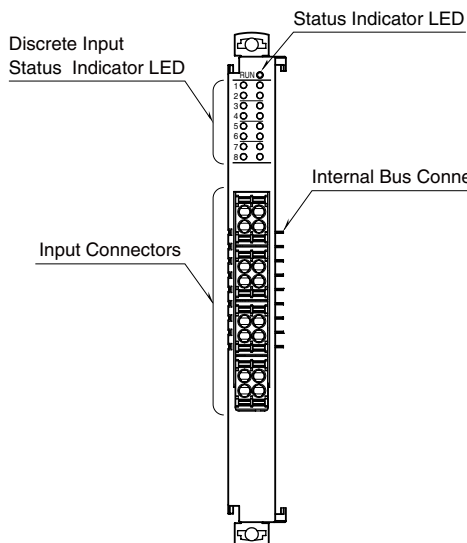


Note 1: Be careful not to hurt your hand by pointed edges of the internal bus connector.

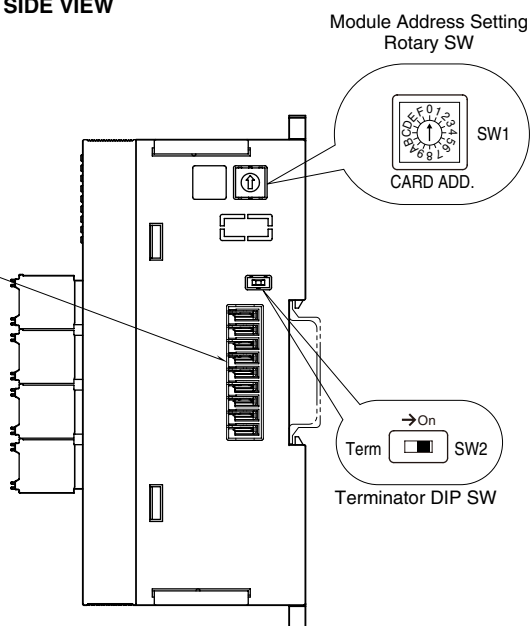
Note 2: I/O modules cannot hold tightly on the DIN rail by themselves without power/network module.  
Secure them to the position if necessary by using DIN rail end plates.

## COMPONENT IDENTIFICATION

### ■ FRONT VIEW



### ■ SIDE VIEW



### ■ INDICATOR LED

LED	OPERATION	FUNCTION
Status	OFF	Upper communication: Stopping or abnormal Internal communication: Normal
	Red ON	Upper communication: Stopping or abnormal Internal communication: Abnormal
	Green ON	Upper communication: Normal Internal communication: Normal
	Orange ON	Upper communication: Normal Internal communication: Abnormal
	Red Blinking Orange Blinking	Circuit abnormality (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	1	Di 1	Input 1
2 Di 2	2	Di 2	Input 2
3 Di 3	3	Di 3	Input 3
4 Di 4	4	Di 4	Input 4
5 Di 5	5	Di 5	Input 5
6 Di 6	6	Di 6	Input 6
7 Di 7	7	Di 7	Input 7
8 Di 8	8	Di 8	Input 8
9 0V	9	0V	Excitation supply 0V
10 0V	10	0V	Excitation supply 0V
11 24V	11	24V	Excitation supply 24V
12 24V	12	24V	Excitation supply 24V
13 NC	13	NC	No connection
14 NC	14	NC	No connection
15 NC	15	NC	No connection
16 NC	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):

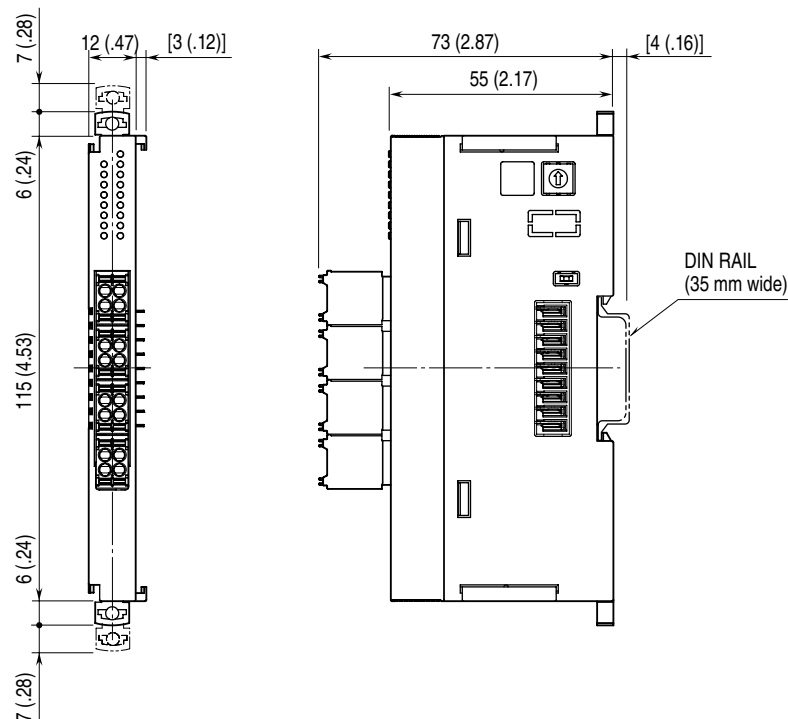
- Sampling cycle: 100  $\mu$ s, 200  $\mu$ s, 400  $\mu$ s, 800  $\mu$ s, 4 ms, 8 ms, 16 ms, 40 ms (Factory setting: 100  $\mu$ s)

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.

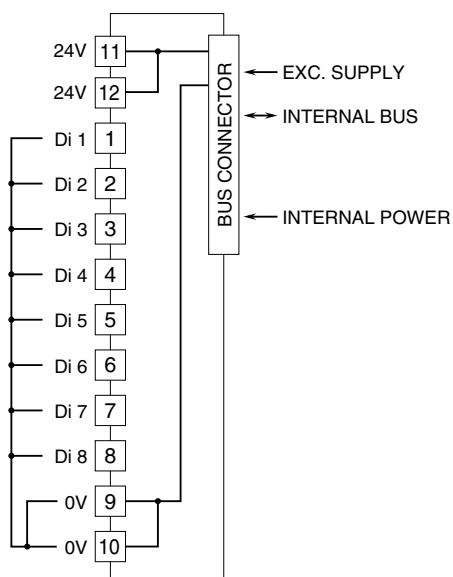
## TERMINAL CONNECTIONS

Connect the unit as in the diagram below.

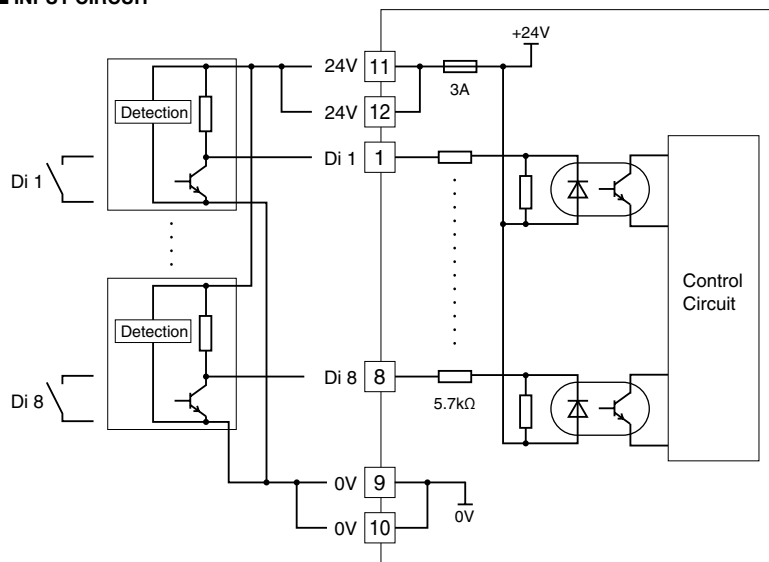
### EXTERNAL DIMENSIONS unit: mm (inch)



### CONNECTION DIAGRAM



### INPUT CIRCUIT



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## WIRING INSTRUCTIONS

### ■ TENSION CLAMP TERMINAL BLOCK

Unit side connector: M-System

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)