

DC VOLTAGE / CURRENT INPUT MODULE, 4 points
(4 points, non-isolated, tension clamp terminal block)**MODEL R80FST4NJ****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:

DC voltage / current 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**■ CONFORMITY WITH EU DIRECTIVES**

- The equipment must be mounted inside a panel.
- The actual installation environments such as panel configurations, connected devices, 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 the CE conformity.

■ GENERAL PRECAUTIONS

- Before you remove or mount the unit, turn off the power supply and output signal for safety.
- DO NOT set the switches while the power is supplied. The switches are used only for maintenance without the power.

■ ENVIRONMENT

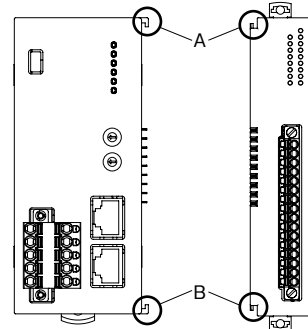
- Indoor use.
- When heavy dust or metal particles are present in the air, install the unit inside proper housing with sufficient ventilation.
- Do not install the unit where it is subjected to continuous vibration. Do not subject the unit to physical impact.
- Environmental temperature must be within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

■ WIRING

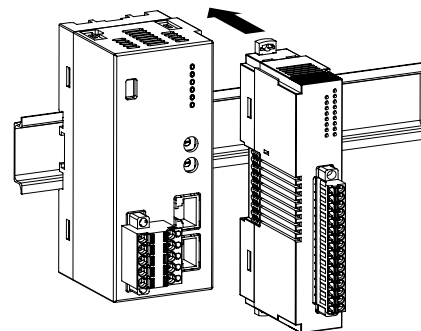
- Do not install cables close to noise sources (relay drive cable, high frequency line, etc.).
- Do not bind these cables together with those in which noises are present. Do not install them in the same duct.

■ POWER UP

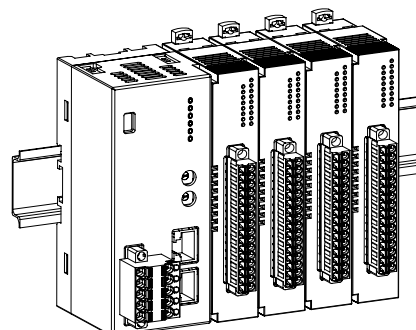
- The unit is designed to function as soon as power is supplied, however, a warm up for 10 minutes is required for satisfying complete performance described in the data-sheet.

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

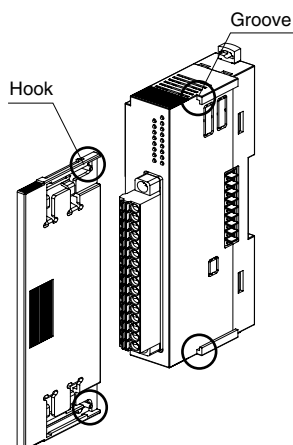
Confirm that the locking clamps of the extension power supply module are set. Insert the module in parallel to the next one while aligning the grooves of both modules (A & B in the above figure). Maintain it perpendicularly to the rail.



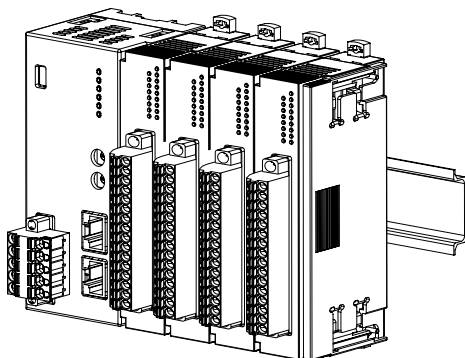
More I/O modules can be added in the same manner.



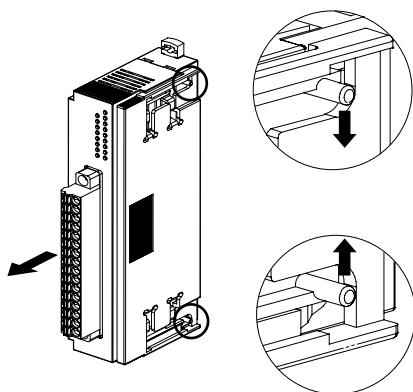
• Protective Cover



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.

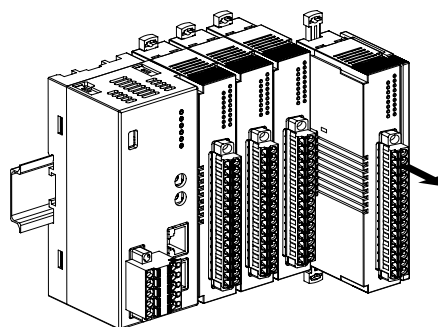
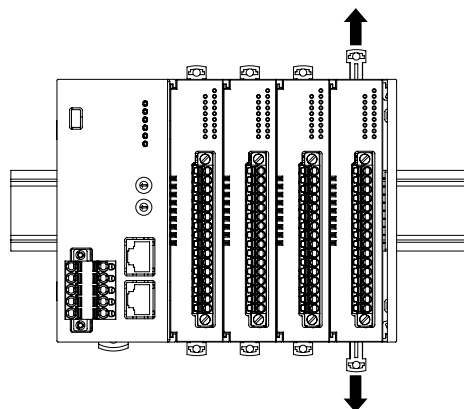


When removing the cover, pull it out while squeezing the hooks inward.

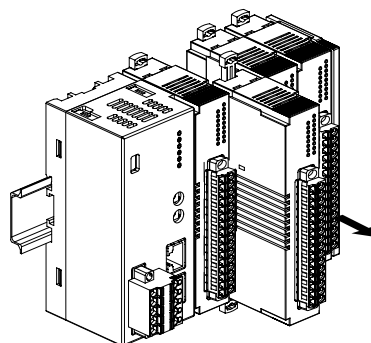
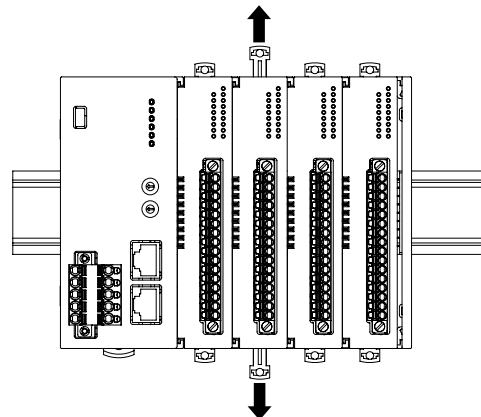


■ HOW TO UNMOUNT THE MODULE FROM DIN RAIL

Release the locking clamps and pull out straight the module.



• Removing an intermediate module

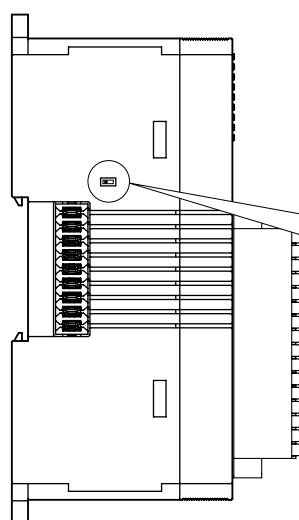


Caution !

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

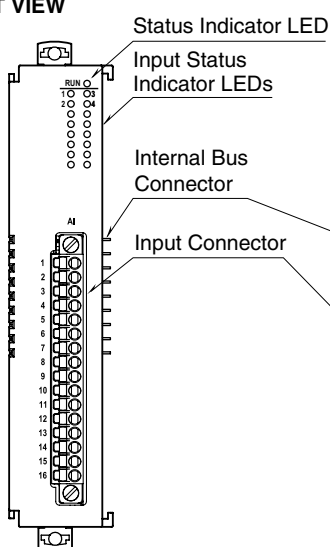
■ LEFT VIEW



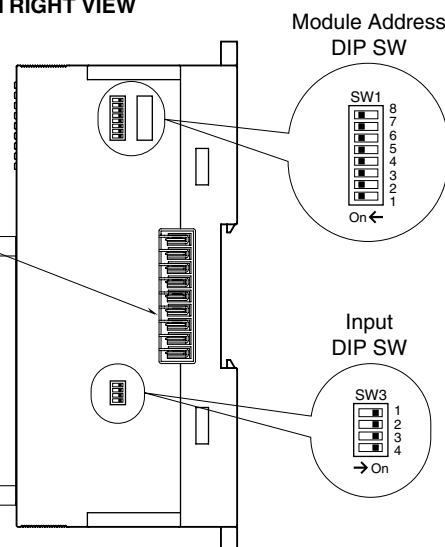
Terminal
DIP SW

SW2
Term
On ←

■ FRONT VIEW



■ RIGHT VIEW



Module Address
DIP SW

SW1
8
7
6
5
4
3
2
1
On ←

Input
DIP SW

SW3
1
2
3
4
→ On

■ STATUS INDICATOR LED / INPUT STATUS INDICATOR LED

LED	OPERATION	COLOR	FUNCTION
RUN Indicator LED	ON	Red	Upper communication: Stopping or abnormal Internal communication: Abnormal
	ON	Green	Upper communication: Normal Internal communication: Normal
	Blink 1 sec. cycle	—	Input value error (Exceeds the upper limit of usable range).
	Blink 400 msec. cycle	—	Input circuit abnormality (AD converter response failure)
	OFF	—	Upper communication: Stopping or abnormal Internal communication: Normal
Input Status Indicator LED	OFF	Red	Input data in the range
	ON		Input value error (Exceeds the upper limit of usable range). Input circuit abnormality (AD converter response failure)

■ OPERATING MODE SETTING

(*) factory default setting

Note) Be sure to unused SW 1-5 through 1-8 to OFF.

• Module Address Setting

Configure the module address with DIP Switch.

0 - 15 are available for module address.

MODULE ADDRESS	SW1			
	1	2	3	4
0(*)	OFF	OFF	OFF	OFF
1	ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	ON	ON	OFF	OFF
4	OFF	OFF	ON	OFF
5	ON	OFF	ON	OFF
6	OFF	ON	ON	OFF
7	ON	ON	ON	OFF
8	OFF	OFF	OFF	ON
9	ON	OFF	OFF	ON
10	OFF	ON	OFF	ON
11	ON	ON	OFF	ON
12	OFF	OFF	ON	ON
13	ON	OFF	ON	ON
14	OFF	ON	ON	ON
15	ON	ON	ON	ON

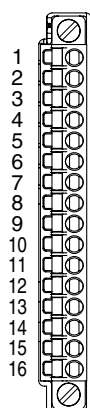
• Terminator Setting

Terminator	SW2
Disabled (*)	OFF
Enabled	ON

• Input Setting

Input Setting	SW3			
	1	2	3	4
	Input 1	Input 2	Input 3	Input 4
DC voltage (*)	OFF	OFF	OFF	OFF
DC Current	ON	ON	ON	ON

INPUT CONNECTOR TERMINAL ASSIGNMENT



PIN No.	ID	FUNCTION
1	Ai1	Input 1 (+)
2	AG1	Input 1 (–)
3	+	Excitation supply (+)
4	–	Excitation supply (–)
5	Ai2	Input 2 (+)
6	AG2	Input 2 (–)
7	+	Excitation supply (+)
8	–	Excitation supply (–)
9	Ai3	Input 3 (+)
10	AG3	Input 3 (–)
11	+	Excitation supply (+)
12	–	Excitation supply (–)
13	Ai4	Input 4 (+)
14	AG4	Input 4 (–)
15	+	Excitation supply (+)
16	–	Excitation supply (–)

PC CONFIGURATOR

The following parameters can be set with using PC Configurator Software (model: R80CFG)
Refer to the users manual for the R80CFG for detailed operation of the software program.

■ CHANNEL INDIVIDUAL SETTING

ITEM	SETTING RANGE		DEFAULT VALUE
Unused setting	CH enabled CH disabled		CH enabled
Input type	DC voltage	-10 - +10 V DC	-10 - +10 V DC
	DC current	-20 - +20 mA DC	
Zero fine adj.	-320.00 - +320.00 (%)		0.00 (%)
Gain fine adj.	-3.2000 - +3.2000		1.0000
Zero base	depends on input types*1		-10.000 V
Full base	depends on input types*1		10.000 V
Zero scaling	-32,000 - +32,000		0
Full scaling	-32,000 - +32,000		10,000

*1. For details, refer to the users manual of R80CFG

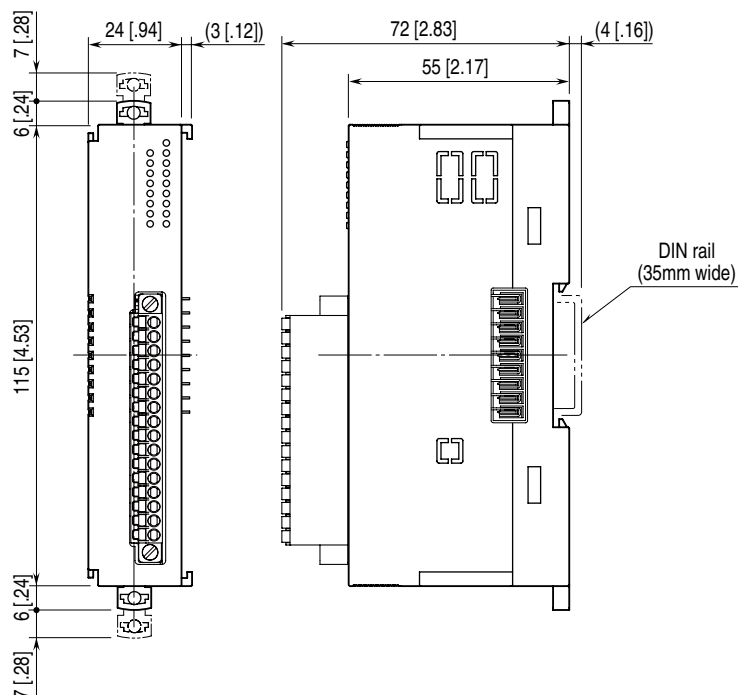
■ CHANNEL BATCH SETTING

ITEM	SETTING RANGE	DEFAULT VALUE
Version no.	—	—
Simulate input	Normal input Simulated data	Normal input

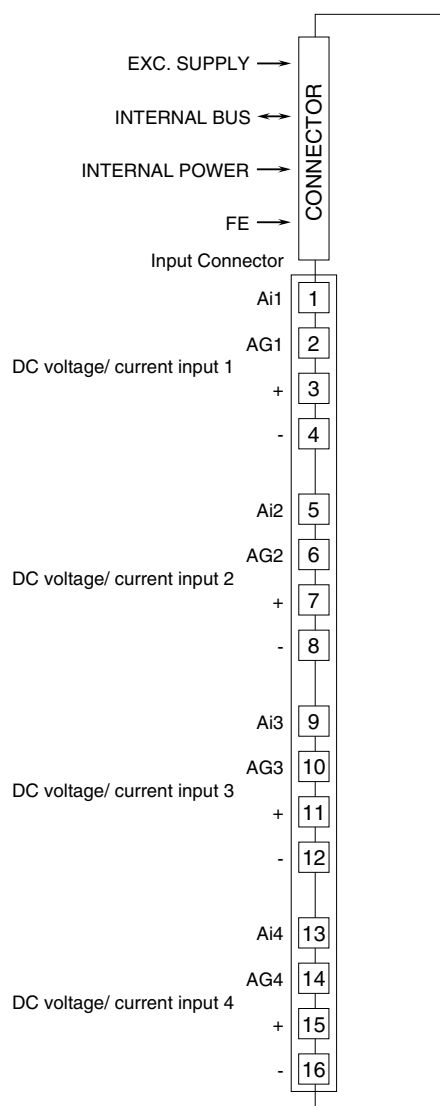
TERMINAL CONNECTIONS

Connect the unit as in the diagram below.

■ EXTERNAL DIMENSIONS unit : mm [inch]



■ CONNECTION DIAGRAM



WIRING INSTRUCTIONS

■ Tension clamp terminal block

Unit side connector: MC1,5/16-GF-3,5 (Phoenix Contact)

Applicable connector: FMC1,5/16-STF-3,5
(Phoenix Contact)

Applicable wire size: 0.2 – 1.5 mm²

Stripped length: 10 mm

Recommended solderless terminal

- AI0,25–10YE 0.25 mm² (Phoenix Contact)
- AI0,34–10TQ 0.34 mm² (Phoenix Contact)
- AI0,5–10WH 0.5 mm² (Phoenix Contact)
- AI0,75–10GY 0.75 mm² (Phoenix Contact)
- A1–10 1.0 mm² (Phoenix Contact)
- A1,5–10 1.5 mm² (Phoenix Contact)