

**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 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 the instrument panel of a metal enclosure.
- 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.

**■ HOT SWAPPABLE MODULES**

- Replacing the module does not affect other modules on the same base. Thus, the module can be replaced while the power is ON. However, replacing multiple modules at once may greatly change live voltage levels. We highly recommend to replace them one by one.

**■ GENERAL PRECAUTIONS**

- DO NOT set the switches on the module 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 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.

**■ UNUSED INPUT CHANNELS**

- Set the unused channels to the ranges other than 1 – 5 V. Otherwise, set them as “Unused” with PC Configurator software: R3CON. Unused channels left open with 1 – 5 V setting are equal to the input lower than -15%, which sets a data abnormality at the PLC or the host device.

**■ AND ....**

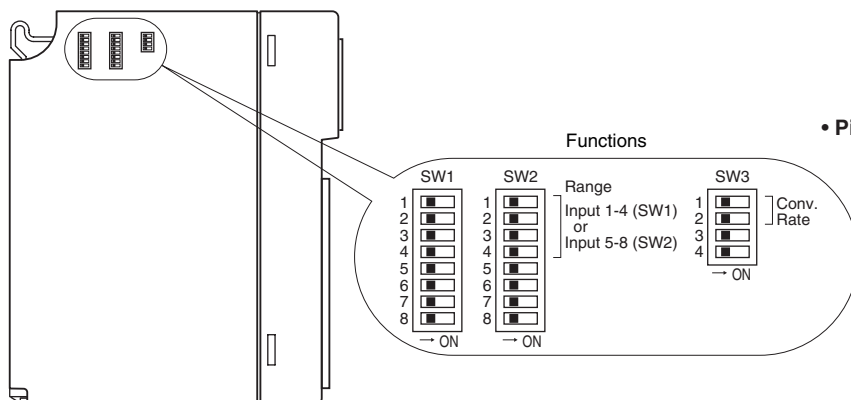
- The unit is designed to function as soon as power is supplied, however, a warm up for 10 minutes is required for satisfying complete performance described in the data sheet.

**INSTALLATION**

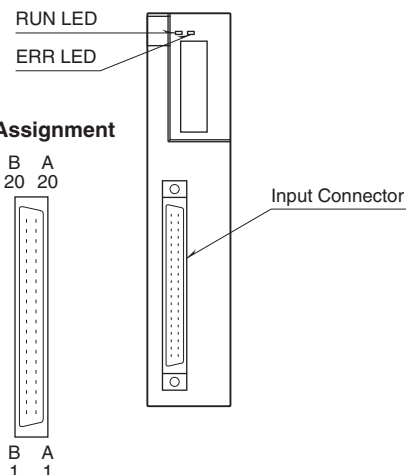
Use the Installation Base (model: R3-BSx).

## COMPONENT IDENTIFICATION

### ■ SIDE VIEW



### ■ FRONT VIEW



### ■ SIDE DIP SW

(\*) Factory setting

#### • Input Range: SW1, SW2 (selectable per 4 channels)

INPUT 1 through INPUT 4 (SW1)				RANGE
INPUT 5 through INPUT 8 (SW2)				
1	2	3	4	
OFF	OFF	OFF	OFF	-10 – +10V (*)
ON	OFF	OFF	OFF	-5 – +5V
OFF	ON	OFF	OFF	-1 – +1V
ON	ON	OFF	OFF	0 – 10V
OFF	OFF	ON	OFF	0 – 5V
ON	OFF	ON	OFF	1 – 5V
OFF	ON	ON	OFF	0 – 1V

#### • Conversion Rate: SW3-1, 3-2

SW	CONVERSION RATE			
	160 ms (*)	80 ms	40 ms	20 ms
SW3-1	OFF	ON	OFF	ON
SW3-2	OFF	OFF	ON	ON

Note: Be sure to set unused SW1-5 through 1-8, SW2-5 through 2-8, SW3-3 and 3-4 to OFF.

### ■ STATUS INDICATOR LED

**RUN indicator:** Bi-color (red/green) LED;

Red when the bus A operates normally;  
Green when the bus B operates normally;  
Amber when both buses operate normally.

**ERR indicator:** Bi-color (red/green) LED;

Red with input circuit abnormality (AD converter response failure);  
Green in normal operating conditions.

## PC CONFIGURATOR

With configurator software, settings shown below are available.  
Refer to the software manual of R3CON for detailed operation.

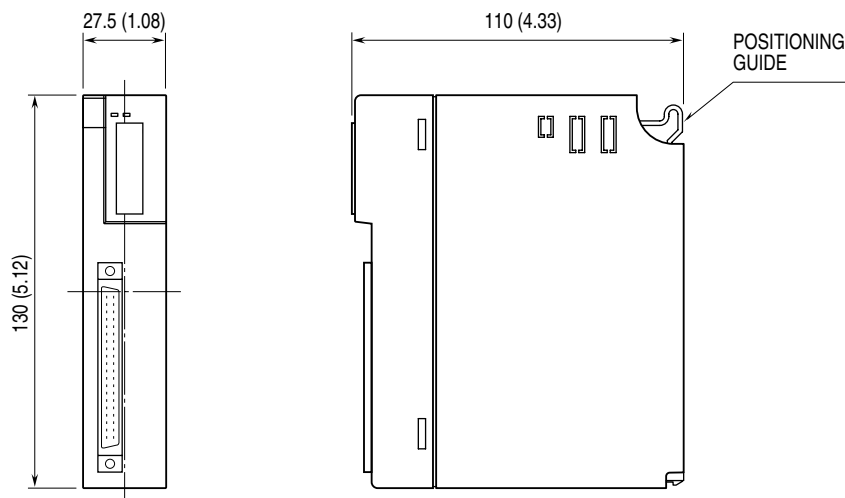
### ■ CHANNEL INDIVIDUAL SETTING

PARAMETER	AVAILABLE RANGE	DEFAULT SETTING
Zero Scale	-32000 to +32000	0
Full Scale	-32000 to +32000	10000
Zero Adjust	-320.00 to +320.00	0.00
Full Adjust	-32000 to +32000	1.0000
Unused	0: Enable 1: Disable	0: Enable

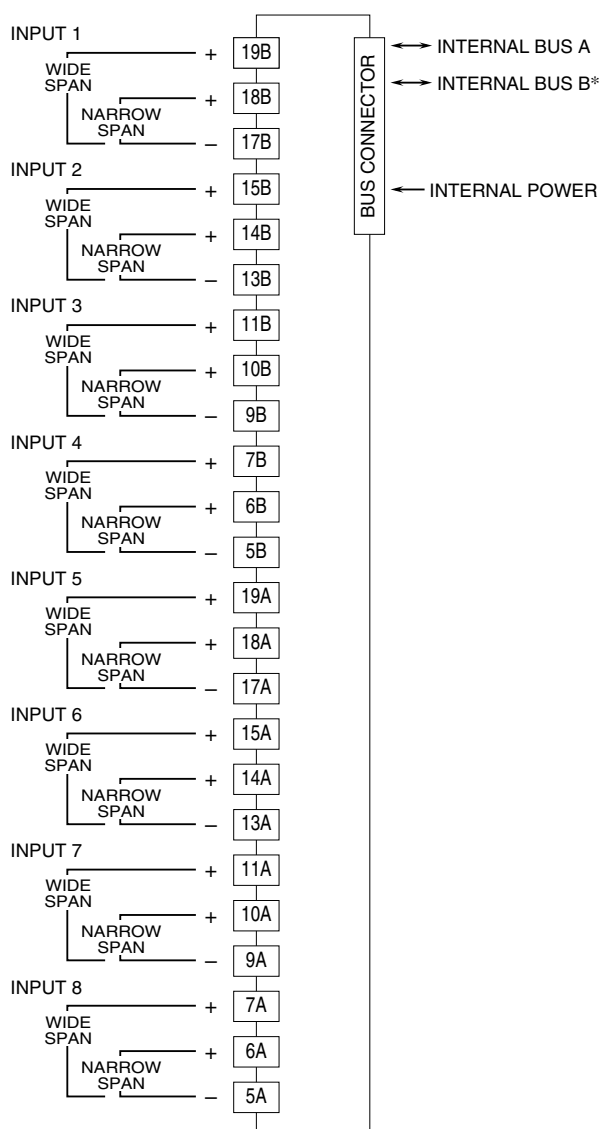
## TERMINAL CONNECTIONS

Connect the unit as in the diagram below.

### EXTERNAL DIMENSIONS unit: mm (inch)



### CONNECTION DIAGRAM



■ **Wide span:** -10 – +10 V DC, -5 – +5 V DC, 0 – 10 V DC, 0 – 5 V DC, 1 – 5 V DC

■ **Narrow span:** -1 – +1 V DC, 0 – 1 V DC

### INPUT CONNECTOR (40-pin)

PIN NO.	ASSIGNMENT	PIN NO.	ASSIGNMENT
1A	NC	1B	NC
2A	NC	2B	NC
3A	NC	3B	NC
4A	NC	4B	NC
5A	- IN8	5B	- IN4
6A	+ IN8L	6B	+ IN4L
7A	+ IN8H	7B	+ IN4H
8A	NC	8B	NC
9A	- IN7	9B	- IN3
10A	+ IN7L	10B	+ IN3L
11A	+ IN7H	11B	+ IN3H
12A	NC	12B	NC
13A	- IN6	13B	- IN2
14A	+ IN6L	14B	+ IN2L
15A	+ IN6H	15B	+ IN2H
16A	NC	16B	NC
17A	- IN5	17B	- IN1
18A	+ IN5L	18B	+ IN1L
19A	+ IN5H	19B	+ IN1H
20A	NC	20B	NC

\*For dual redundant communication.

Note: Connect either wide or narrow span terminals for each channel.