

**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 millivolt 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 open. Otherwise, set them as "Unused" with PC Configurator software: R3CON.

**■ AND ....**

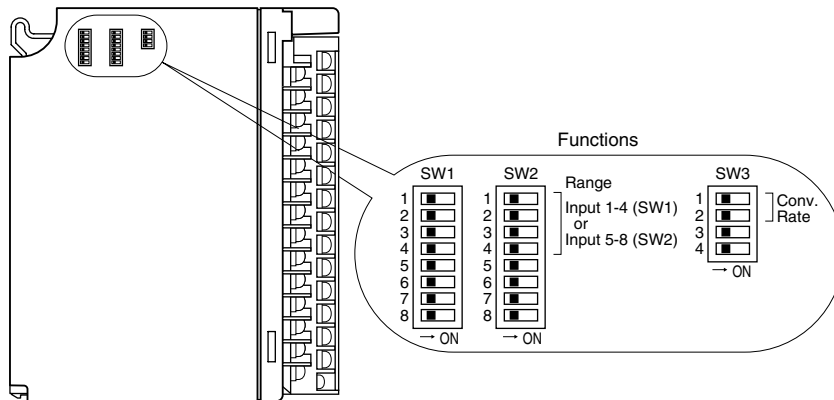
- The unit is designed to function as soon as power is supplied, however, a warm up for 10 minutes is required for satisfying complete performance described in the data sheet.

**INSTALLATION**

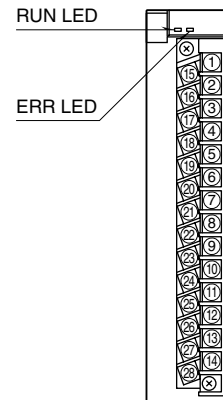
Use the Installation Base (model: R3-BSx).

## 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             |
|-------------------------------|-----|-----|-----|-------------------|
| 1                             | 2   | 3   | 4   |                   |
| OFF                           | OFF | OFF | OFF | -100 – +100mV (*) |
| ON                            | OFF | OFF | OFF | -50 – +50mV       |
| OFF                           | ON  | OFF | OFF | 0 – 100mV         |
| ON                            | ON  | OFF | OFF | 0 – 60mV          |
| OFF                           | OFF | ON  | OFF | 0 – 50mV          |
| ON                            | OFF | ON  | OFF | -60 – +60mV       |

- **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.

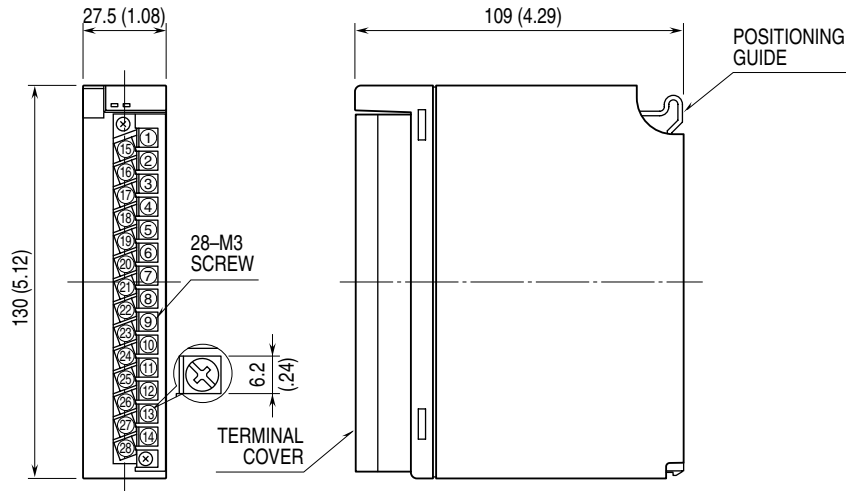
### ■ CHANNEL INDIVIDUAL SETTING

| 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<br>1: Disable | 0: Enable       |

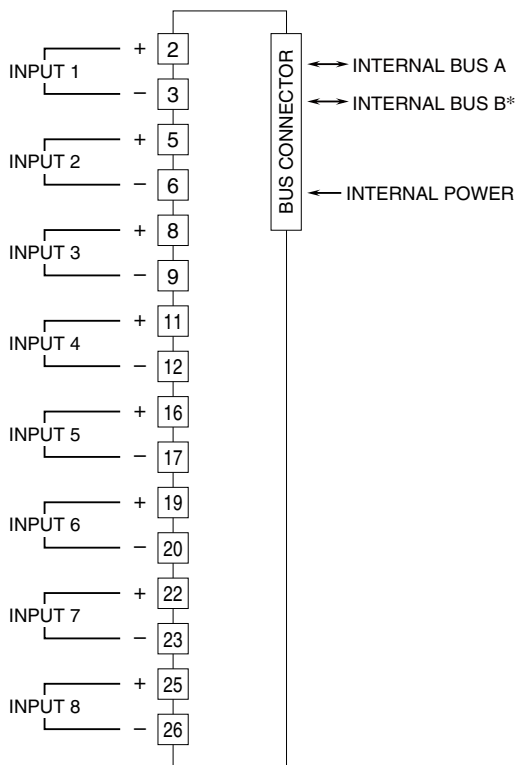
# TERMINAL CONNECTIONS

Connect the unit as in the diagram below.

## EXTERNAL DIMENSIONS unit: mm (inch)



## CONNECTION DIAGRAM



\*For dual redundant communication.  
DO NOT connect external wiring to the unused terminals.

## WIRING INSTRUCTIONS

### SCREW TERMINAL

Torque: 0.5 N·m

### SOLDERLESS TERMINAL

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: 0.3 – 0.5 mm<sup>2</sup>

Recommended manufacturer: Japan Solderless Terminal MFG. Co., Ltd., Nichifu Co., Ltd.

