# POTENTIOMETER INPUT MODULE

**MODEL** 

R5-MS

# **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:**

Potentiometer 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 INSERTION/REMOVAL OF MODULES**

• Removing or replacing modules does not affect other modules on the same backplane. It is possible to replace them without removing the power supply. However, replacing multiple modules at once may greatly change line voltage levels. We recommend that you replace them one by one.

#### **■ GENERAL PRECAUTIONS**

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 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.

#### ■ 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.

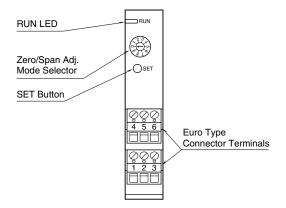
# INSTALLATION

Use the Installation Base (model: R5-BS).



# **COMPONENT IDENTIFICATION**

#### **■** FRONT VIEW



#### ■ ZERO/SPAN ADJ. MODE SELECTOR ROTARY SW

SW	MODE	FUNCTION	RUN LED
0 (*)	Run	Output % proportional to the Input %	Red/Green ON *1
1	Input 1 0% adjust	Apply 0% input at Input 1 and press SET	Red Blinking
2	Input 1 100% adjust	Apply 100% input at Input 1 and press SET	Red Blinking
3	Input 2 0% adjust	Apply 0% input at Input 2 and press SET	Green Blinking
4	Input 2 100% adjust	Apply 100% input at Input 2 and press SET	Green Blinking
5 - 9	Not used		

<sup>(\*)</sup> Factory setting

#### Zero/Span Adjustment Modes

**Run Mode** 

Normal operating mode

Input 0% Adjustment Mode

Apply the actual 0% input and press SET.

### Input 100% Adjustment Mode

Apply the actual 100% input and press SET.

#### How to Operate

- 1) Start up in Monitor Mode (SW position = 0) and wait for 2 or 3 seconds.
- 2) Switch to another mode and go through the adjustments.
- 3) Reset the switch to the position '0' so that the new setting is stored in the internal memory.

### Cautions on the LEDs

- 1) Mode switching from Run to another mode becomes effective when SET button is touched and the LED for the respective mode starts blinking after the rotary switch setting has been changed.
- 2) Mode switching back to Monitor becomes effective automatically in a few seconds after the switch is reset to '0' and is confirmed with the LED stopping blinking.

# **PC CONFIGURATOR**

With configurator software, settings shown below are available. Refer to the software manual of R5CON for detailed operation.

#### ■ CHANNEL INDIVIDUAL SETTING

PARAMETER	AVAILABLE RANGE	DEFAULT SETTING
Zero Scale	-32000 to +32000	0
Full Scale	-32000 to +32000	10000
Bias [Zero Adj.]	-320.00 to +320.00	0.00
Gain [Span Adj.]	-32000 to +32000	1.0000

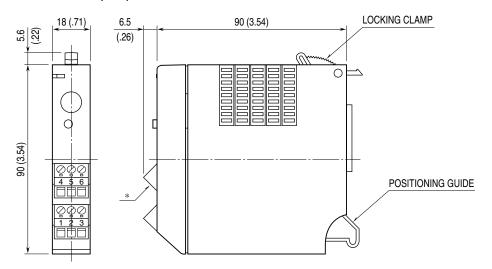


<sup>\*1.</sup> **RUN indicator**: Bi-color (red/green) LED; Red when the bus A operates normally; Green when the bus B operates normally; Amber when both buses operate normally.

# **TERMINAL CONNECTIONS**

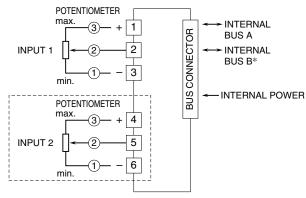
Connect the unit as in the diagram below.

#### ■ EXTERNAL DIMENSIONS unit: mm (inch)



\*Euro type connector terminals (4, 5 and 6) provided only with 2-ch. option.

#### **■ CONNECTION DIAGRAM**



\*For dual redundant communication.

Note: The section enclosed by broken line is with 2-ch. option.

# **WIRING INSTRUCTIONS**

### **■ EURO TYPE CONNECTOR TERMINAL**

Applicable wire size: 0.2 to  $2.5~\text{mm}^2$  Stripped length: 7~mm

