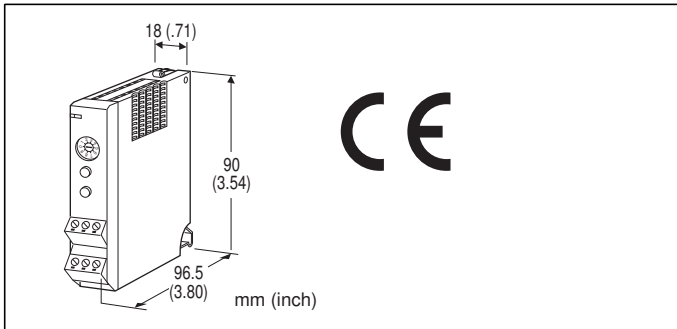


Remote I/O R5 Series

POTENTIOMETER INPUT MODULE

(re-transmitted output)



MODEL: R5-MS1A[1][2]

ORDERING INFORMATION

- Code number: R5-MS1A[1][2]
- Specify a code from below for each [1] and [2].
(e.g. R5-MS1AW/Q)
- Specify the specification for option code /Q
(e.g. /C01)

NO. OF CHANNELS

1: 1 channel

OUTPUT

Current

A: 4 - 20 mA DC (Load resistance 600 Ω max.)

[1] COMMUNICATION MODE

S: Single

W: Dual

[2] OPTIONS

blank: none

/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to M-System's web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

GENERAL SPECIFICATIONS

Connection

Internal bus: Via the Installation Base

(model: R5-BS)

I/O: Euro type connector terminal

Wire size AWG24-12 (0.2 - 2.5 mm²), stripped length 7 mm

Internal power: Via the base (model: R5-BS)

Isolation: Input to output to internal bus or internal power

Zero/Span adj. mode selector: Rotary switch; monitor mode, adj. mode and simulated output mode selectable

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.

INPUT SPECIFICATIONS

Total resistance: 100 Ω - 10 k Ω

Minimum span: 50 % of the total resistance range

Excitation: 0.5 V DC

OUTPUT SPECIFICATIONS

Operational range: Approx. 0 - 24 mA DC

INSTALLATION

Operating temperature: -10 to +55°C (14 to 131°F)

Operating humidity: 30 to 90 %RH (non-condensing)

Atmosphere: No corrosive gas or heavy dust

Mounting: Installation Base (model: R5-BS)

Weight: 100 g (3.53 oz)

PERFORMANCE

Conversion accuracy

Input: ± 0.1 %

Output: ± 0.1 % of the retransmitted range + input

conversion accuracy

Data range: 0 - 10000 of the input range

Data allocation: 1

Temp. coefficient

Input: ± 0.015 %/°C (± 0.008 %/°F)

Output: ± 0.02 %/°C (± 0.01 %/°F)

Resolution: 1/10000 of the total resistance range

(Reduced by the actual range determined zero/ span positions. Minimum 50 % of the total resistance range must be maintained.)

Response time: ≤ 0.2 sec. (0 - 90 %)

Insulation resistance: ≥ 100 M Ω with 500 V DC

Dielectric strength: 1500 V AC @ 1 minute (input to output to internal bus or internal power)

2000 V AC @ 1 minute (power input to FG; isolated on the power supply module)



STANDARDS & APPROVALS

CE conformity:

EMC Directive (2004/108/EC)

EMI EN 61000-6-4: 2007/A1: 2011

EMS EN 61000-6-2: 2005

FUNCTIONS

• Zero/Span Adjustment Modes

Monitor Mode

Re-transmits the input signal as output in proportion.

Input 0 % Adjustment Mode

Adjusts the 0% input signal. Press the UP button to set.

Input 100 % Adjustment Mode

Adjusts the 100 % input signal. Press the UP button to set.

Output 0 % Adjustment Mode

Adjusts the 0 % output signal using the UP/DOWN buttons, in monitoring the output value with a multimeter.

SW1 through SW3 switch the internal increments by 1, 5 and 10.

Output 100 % Adjustment Mode

Adjusts the 100 % output signal using the UP/DOWN buttons, in monitoring the output value with a multimeter.

SW4 through SW6 switch the internal increments by 1, 5 and 10.

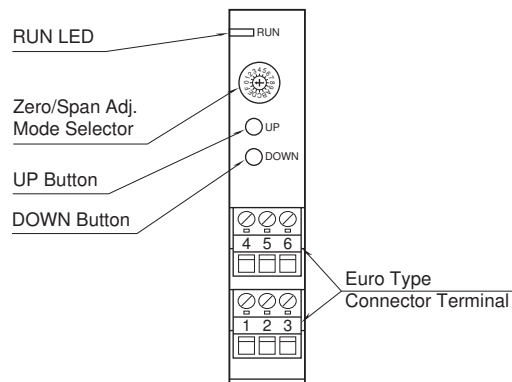
Simulated Output Mode

Outputs the simulated signals of 0 %, 50 % and 100 %.

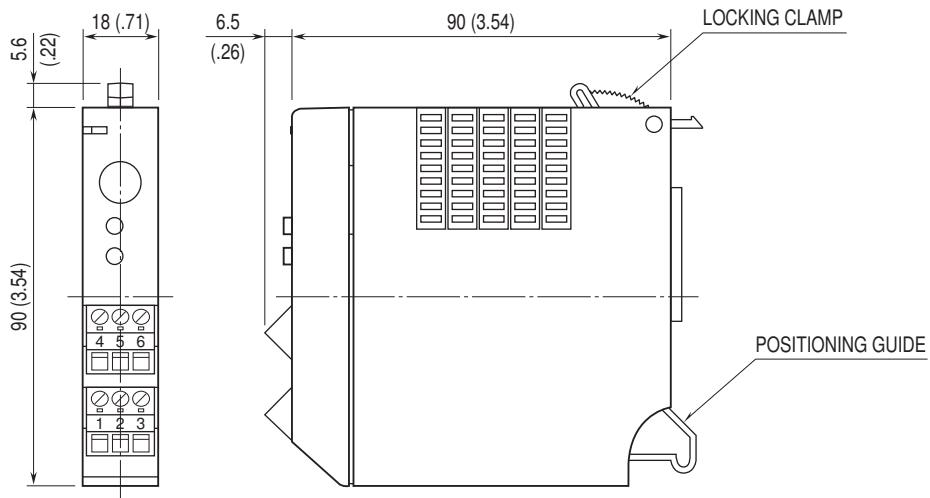
• How to Operate

- 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.

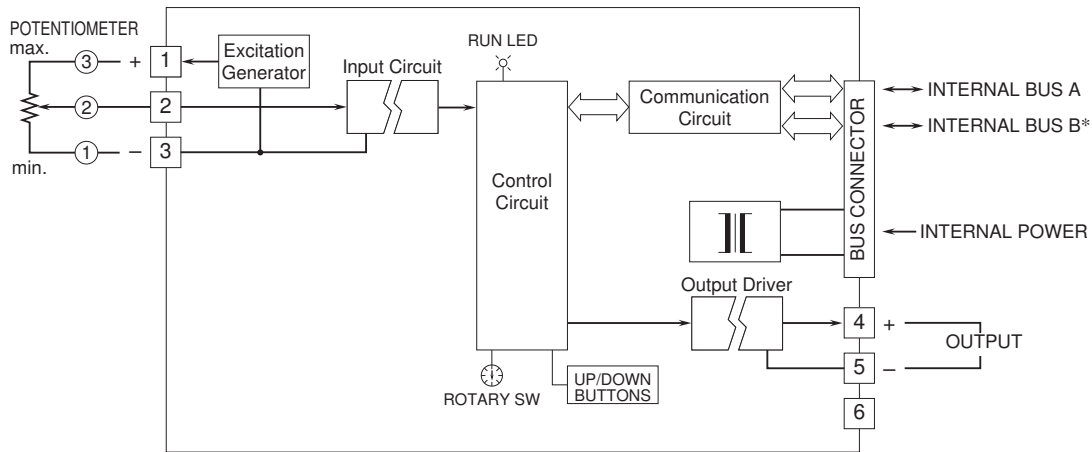
EXTERNAL VIEW



EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.