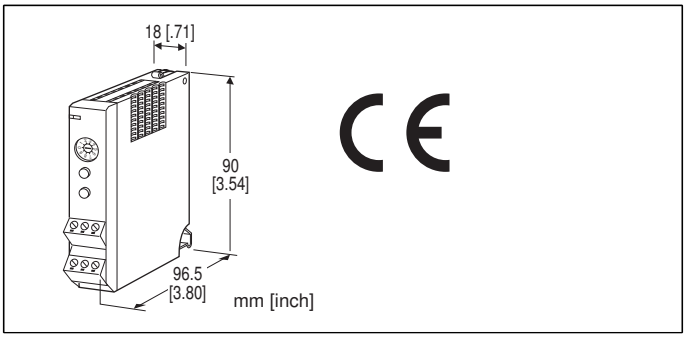
Remote I/O R5 Series

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 of [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
(Applicable wire size: 0.2 – 2.5 mm^2 (AWG24 - 12),
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 kΩ
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 (0.22 lb)

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 MΩ 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

EU conformity:
EMC Directive
EMI EN 61000-6-4
EMS EN 61000-6-2
RoHS Directive

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.

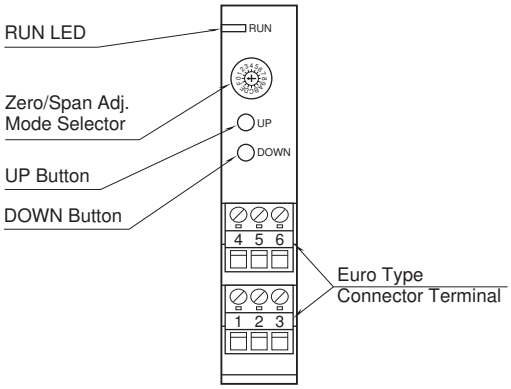
Output 100 % Adjustment Mode
Adjusts the 100 % output signal using the UP/DOWN buttons, in monitoring the output value with a multimeter.
SW4 through SW6 switch the internal increments by 1, 5 and 10.

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

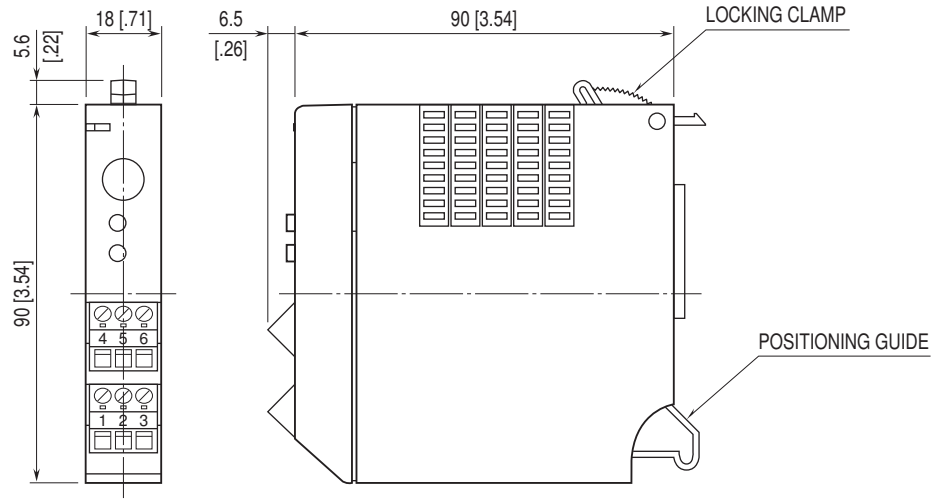
• **How to Operate**

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.

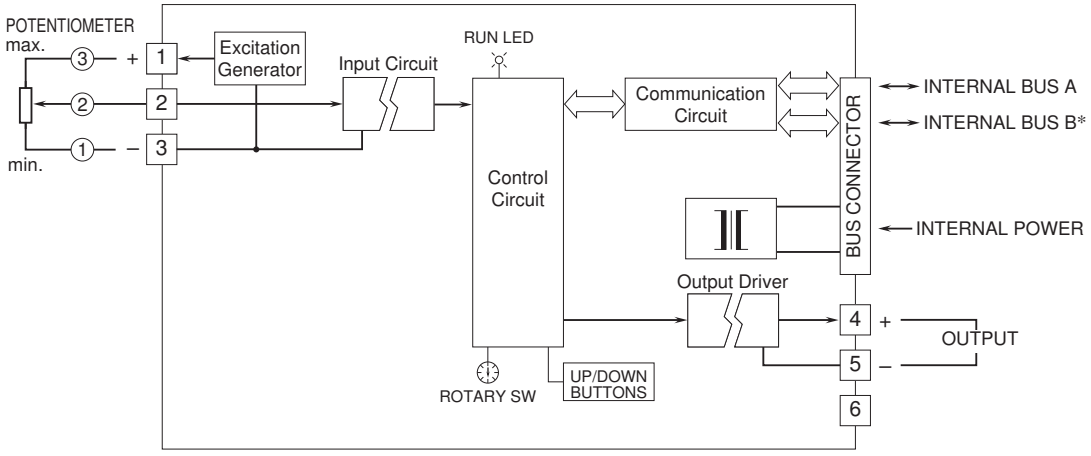
EXTERNAL VIEW



EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*For dual redundant communication.

⚠ Specifications are subject to change without notice.