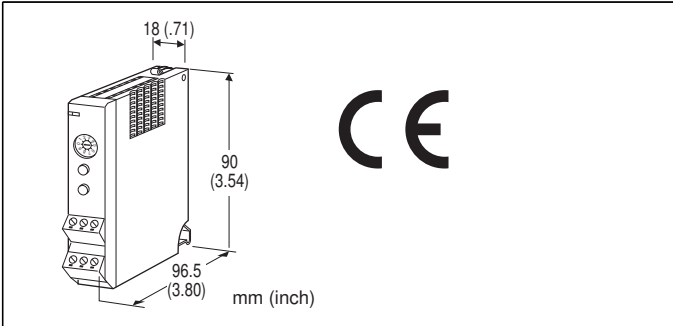


## Remote I/O R5 Series

### 4 - 20 mA INPUT MODULE

(2-wire transmitter excitation supply;  
re-transmitted output)



### MODEL: R5-DS1A[1][2]

#### ORDERING INFORMATION

- Code number: R5-DS1A[1][2]
- Specify a code from below for each [1] and [2].  
(e.g. R5-DS1AW/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  $\Omega$  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 mm<sup>2</sup>), 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.

#### SUPPLY OUTPUT

**Output voltage:** 24 - 29 V DC with no load

**Current rating:**  $\leq$  22 mA DC

• Shortcircuit Protection

**Current limited:** 30 mA max.

**Protected time duration:** No limit

#### INPUT SPECIFICATIONS

■ **DC Current:** 4 - 20 mA DC

Input resistance: 250  $\Omega$  resistor incorporated

#### 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:**  $\pm$ 0.05 %

**Output:**  $\pm$ 0.1 % of the retransmitted range + input  
conversion accuracy

**Data range:** 0 - 10000 of the input range

**Data allocation:** 1

**Temp. coefficient**

**Input:**  $\pm$ 0.015 %/°C ( $\pm$ 0.008 %/°F)

**Output:**  $\pm$ 0.02 %/°C ( $\pm$ 0.01 %/°F)

**Response time:**  $\leq$  0.2 sec. (0 - 90 %)

**Insulation resistance:**  $\geq$  100 M $\Omega$  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.

#### Output 0 % Adjustment Mode

Adjusts the 0 % output signal using the front 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 front UP/DOWN buttons, in monitoring the output value with a multimeter. SW4 through SW6 switch the internal increments by 1, 5 and 10.

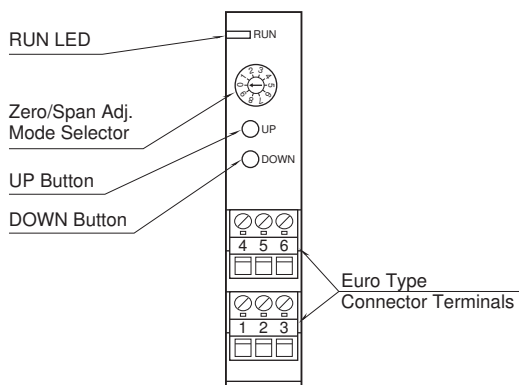
#### Simulated Output Mode

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

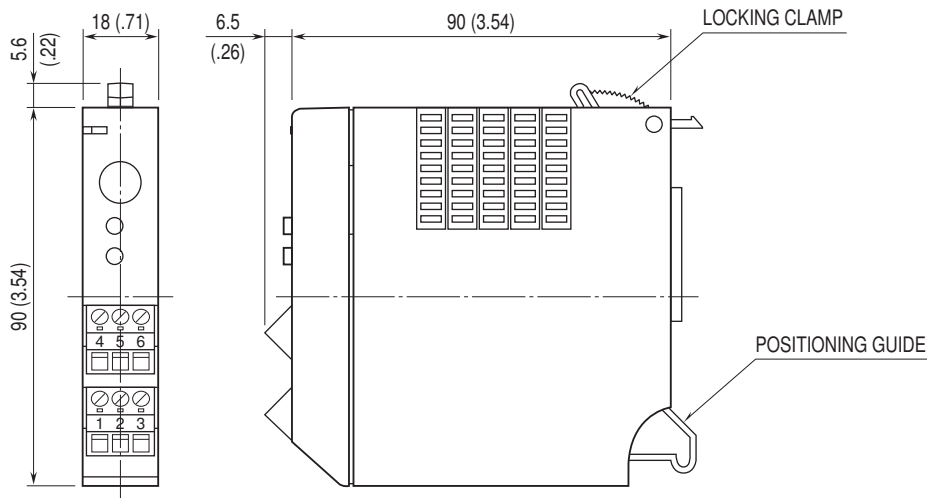
### • How to Operate

- 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.

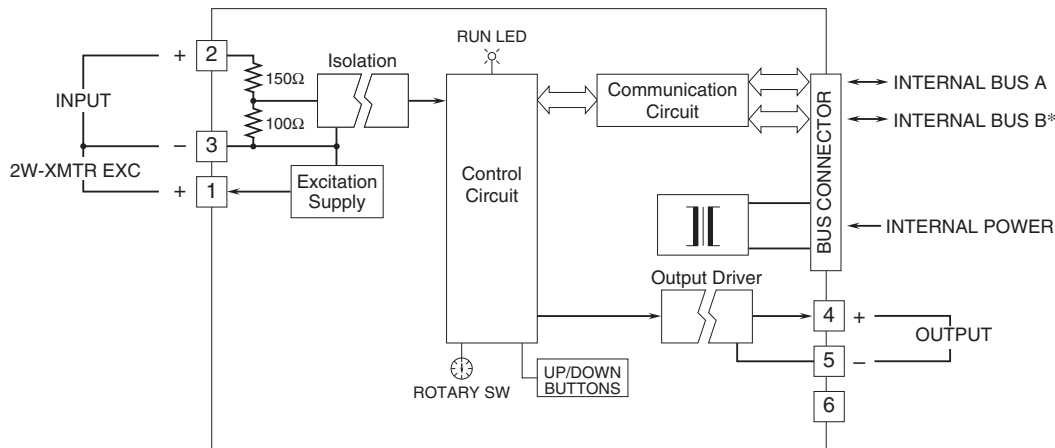
## EXTERNAL VIEW



## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



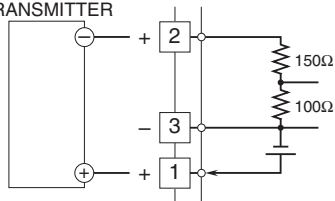
## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



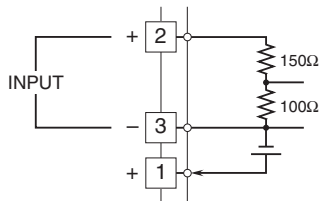
\*For dual redundant communication.

### ■ When Used as DC Supply

#### 2-WIRE TRANSMITTER



### ■ When Used as Current Input



Specifications are subject to change without notice.