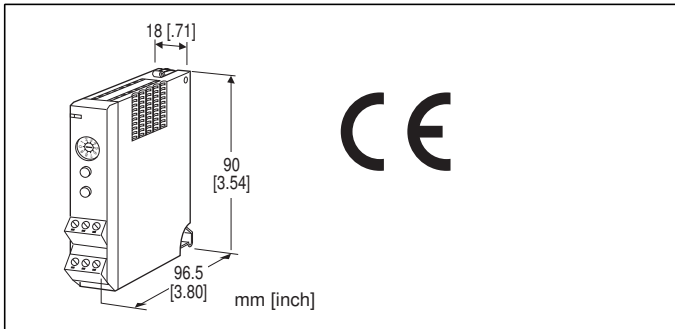


## Remote I/O R5 Series

### RTD INPUT MODULE

(re-transmitted output)



### MODEL: R5-RS1A[1][2]

#### ORDERING INFORMATION

- Code number: R5-RS1A[1][2]  
Specify a code from below for each of [1] and [2].  
(e.g. R5-RS1AW/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 our 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<sup>2</sup> (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

Sensor type: Selectable with the side DIP SW

Temperature unit: °C, °F or absolute temperature selectable  
with the side DIP SW

Burnout detection: Upscale or downscale selectable with the  
side DIP SW

Linearization: Standard

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

Maximum leadwire resistance: 200 Ω per wire (3-wire)

Sensing current: ≤ 1 mA

Temperature range

RTD	°C	
	USABLE RANGE	CONFORMANCE RANGE
Cu 10 @25°C	-212 to +312	-50 to +250
Cu 50	-100 to +200	-50 to +150
JPt 100 (JIS '89)	-236 to +560	-200 to +510
Pt 100 (JIS '89)	-240 to +900	-200 to +660
Pt 100 (JIS '97, IEC) (*)	-240 to +900	-200 to +850
Pt 1000	-240 to +900	-200 to +850
Pt 50Ω (JIS '81)	-236 to +700	-200 to +649
Ni 100	-100 to +252	-80 to +250
Ni 508.4Ω	-100 to +332	-50 to +200
RTD	°F	
	USABLE RANGE	CONFORMANCE RANGE
Cu 10 @25°C	-350 to +594	-58 to +482
Cu 50	-148 to +392	-58 to +302
JPt 100 (JIS '89)	-393 to +1040	-328 to +950
Pt 100 (JIS '89)	-400 to +1652	-328 to +1220
Pt 100 (JIS '97, IEC)	-400 to +1652	-328 to +1562
Pt 1000	-400 to +1652	-328 to +1562
Pt 50Ω (JIS '81)	-393 to +1292	-328 to +1200
Ni 100	-148 to +486	-112 to +482
Ni 508.4Ω	-148 to +630	-58 to +392

(\*) Factory setting. Set the input range within 0-1000°C corresponding to the output range 0-10000.

Max. (upscale) or min. (downscale) value of the usable range when a burnout is detected.

#### 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:**  $\pm 0.4^{\circ}\text{C}$  ( $\pm 3.0^{\circ}\text{C}$  for Cu 10)

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

conversion accuracy

(May exceed  $\pm 0.1\%$  depending upon the input temperature range.)

**Conversion data:** Temperature data scaled and converted into 0 - 100 % data and supplied to the internal network bus

**Data allocation:** 1

### Temp. coefficient

**Input:**  $\pm 0.015\%/^{\circ}\text{C}$  ( $\pm 0.008\%/^{\circ}\text{F}$ )

**Output:**  $\pm 0.02\%/^{\circ}\text{C}$  ( $\pm 0.01\%/^{\circ}\text{F}$ )

**Response time:**  $\leq 0.4$  sec. (0 - 90 %)

**Burnout response time:**  $\leq 2$  sec.

**Insulation resistance:**  $\geq 100\ \text{M}\Omega$  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

### 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.

#### 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

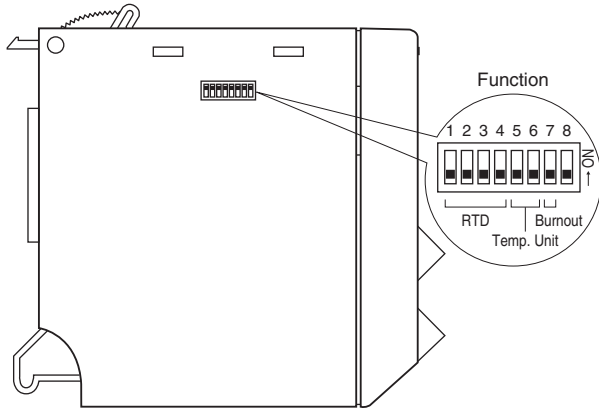
Outputs the simulated signals of 0 %, 50 % and 100 %.

### • How to Operate

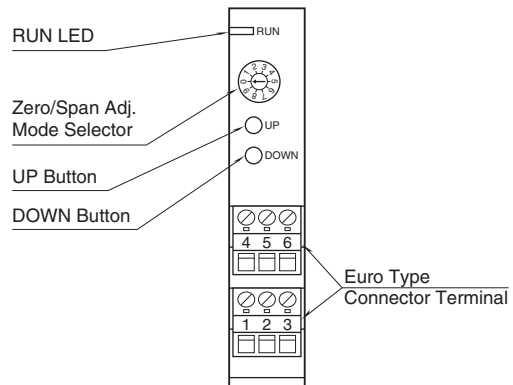
- 1) Start up in Monitor Mode (SW position = 0) and wait for 2 or 3 seconds.
- 2) Switch to another mode and go through the adjustments.
- 3) Reset the switch to the position '0' so that the new setting is stored in the internal memory.

## EXTERNAL VIEW

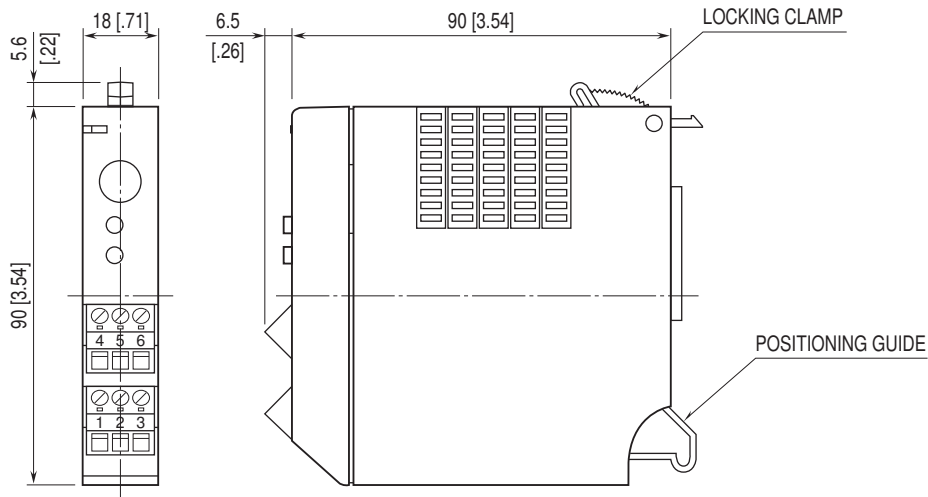
■ SIDE VIEW



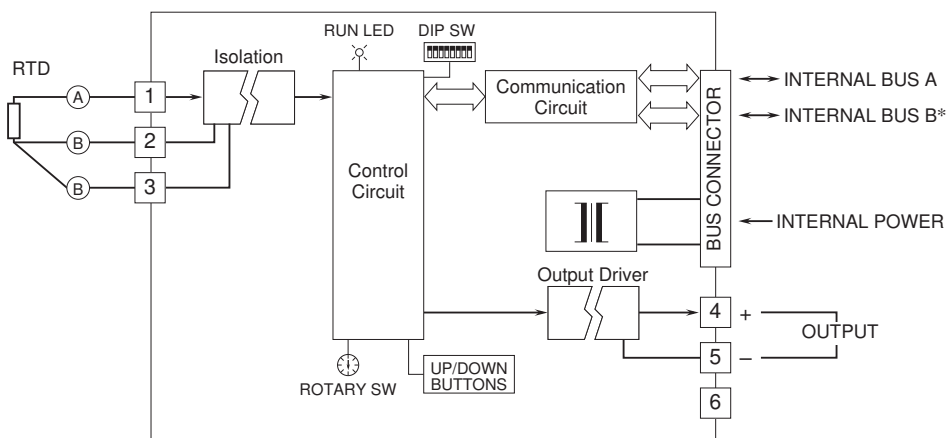
■ FRONT VIEW



## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



\*For dual redundant communication.



Specifications are subject to change without notice.