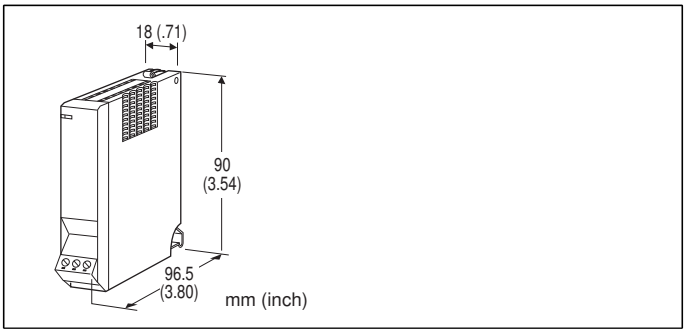
Remote I/O R5 Series

RTD INPUT MODULE

(high resolution)



MODEL: R5-RSA[1][2][3]

ORDERING INFORMATION

• Code number: R5-RSA[1][2][3]
Specify a code from below for each [1] through [3].
(e.g. R5-RSA2W/Q)
• Specify the specification for option code /Q
(e.g. /C01)

[1] NO. OF CHANNELS

1: 1 channel
2: 2 channels

[2] COMMUNICATION MODE

S: Single
W: Dual

[3] 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)
Input: 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 1 to input 2 to internal bus or internal power
Sensor type: Selectable with the side DIP SW
Temperature unit: °C or °F 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: 10 Ω per wire
Sensing current: ≤ 1 mA
(Factory setting is Pt 100 (JIS '97, IEC))

Temperature range

RTD	USABLE RANGE °C	BURNOUT VALUES °C × 100
JPt 100 (JIS '89)	-20 to +200	-23600, +32767
Pt 100 (JIS '89)	-20 to +200	-24000, +32767
Pt 100 (JIS '97, IEC)	-20 to +200	-24000, +32767
RTD	USABLE RANGE °F	BURNOUT VALUES °F × 10
JPt 100 (JIS '89)	-4 to +392	-3928, +10400
Pt 100 (JIS '89)	-4 to +392	-4000, +16500
Pt 100 (JIS '97, IEC)	-4 to +392	-4000, +16500

INSTALLATION

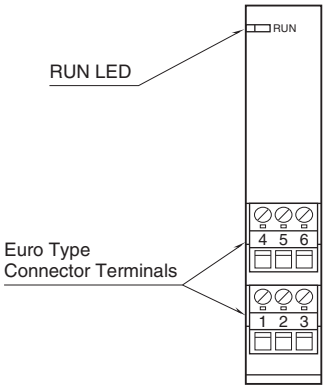
Operating temperature: -10 to +55°C (14 to 131°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Atmosphere: No corrosive gas or heavy dust
Mounting: Installation Base (model: R5-BS)
Weight: 100 g (3.53 oz)

PERFORMANCE

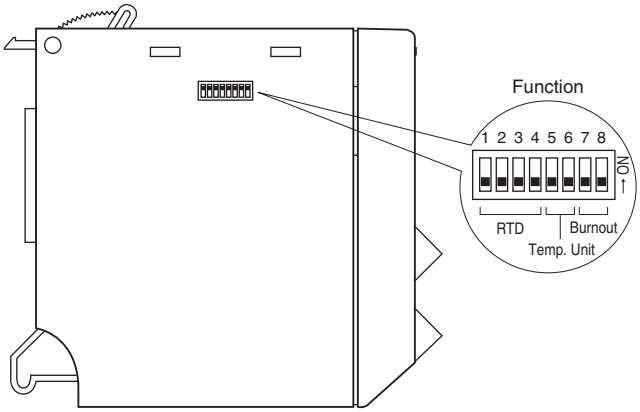
Conversion accuracy: ±0.1°C (±0.2°F)
Data range
°C: Engineering unit value × 100 (integer)
°F: Engineering unit value × 10 (integer)
Data allocation: 1 (2 for 2-channel type)
Temp. coefficient: ±0.015 %/°C (±0.008 %/°F)
Response time: ≤ 0.2 sec. (0 – 90 %)
Burnout response time: ≤ 2 sec.
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 1500 V AC @ 1 minute (input 1 to input 2 to internal bus or internal power)
2000 V AC @ 1 minute (power input to FG; isolated on the power supply module)

EXTERNAL VIEW

■ **FRONT VIEW**



■ **SIDE VIEW**

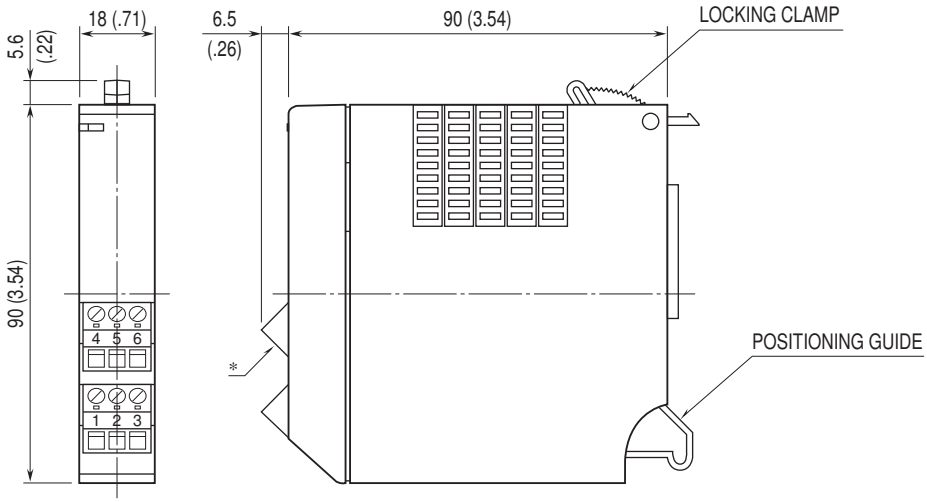


INPUT DATA DESCRIPTIONS

■ **ANALOG DATA (TEMPERATURE DATA)**

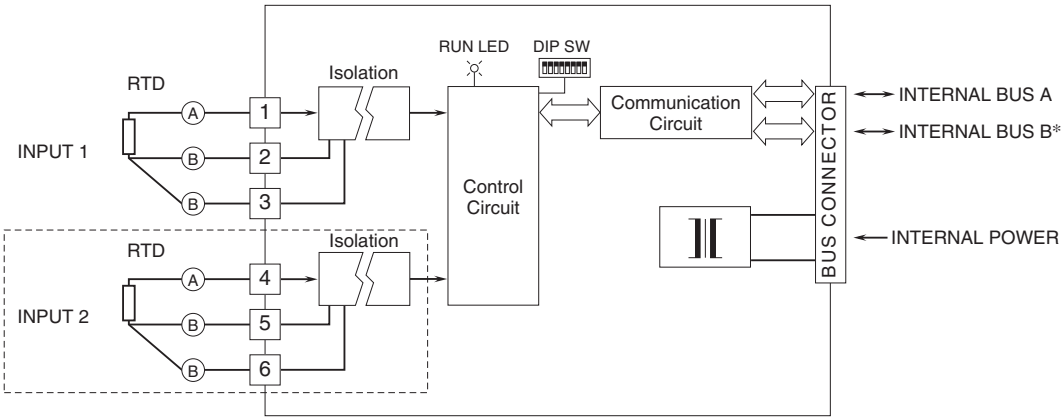
16-bit binary data.
With ℃ temperature unit, raw data is multiplied by 100. For example, 25.5℃ is converted into 2550.
With ℉ temperature unit, raw data is multiplied by 10. For example, 135.4℉ is converted into 1354.
Minus temperature is converted into negative values, represented in 2's complements.

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*For dual redundant communication.
Note: The section enclosed by broken line is with 2-ch. option.

⚠ Specifications are subject to change without notice.