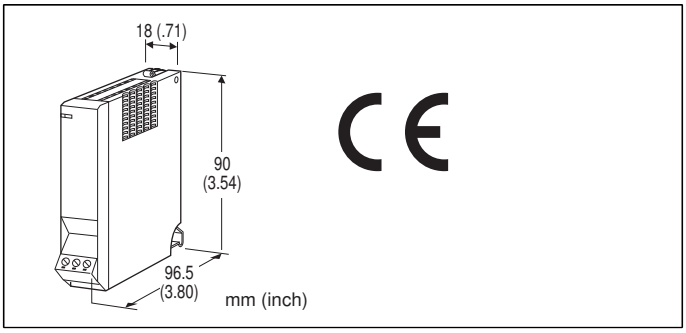
Remote I/O R5 Series

RTD INPUT MODULE



CE

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

ORDERING INFORMATION

• Code number: R5-RS[1][2][3]
Specify a code from below for each [1] through [3].
(e.g. R5-RS2W/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, °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.
Max. (upscale) or min. (downscale) value of the usable range when a burnout is detected.

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

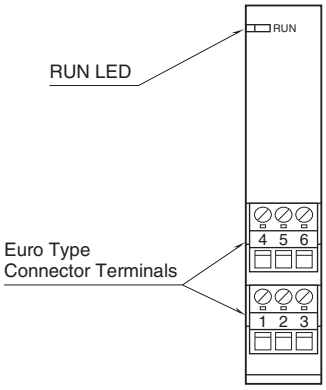
Conversion accuracy: ±0.4°C (±1°F)
(±3.0°C [±5.4°F] for Cu 10)
Data range
°C, absolute temperature: Engineering unit value × 10 (integer)
°F: Engineering unit value (integer)
Data allocation: 1 (2 for 2-channel type)
Temp. coefficient: ±0.015 %/°C (±0.008 %/°F)
Response time: ≤ 0.2 sec. (0 – 90 %)
Burnout 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)

STANDARDS & APPROVALS

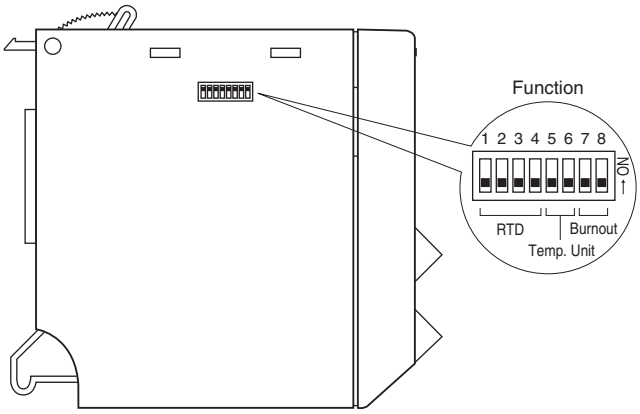
EU conformity:
EMC Directive
EMI EN 61000-6-4
EMS EN 61000-6-2
RoHS Directive
EN 50581

EXTERNAL VIEW

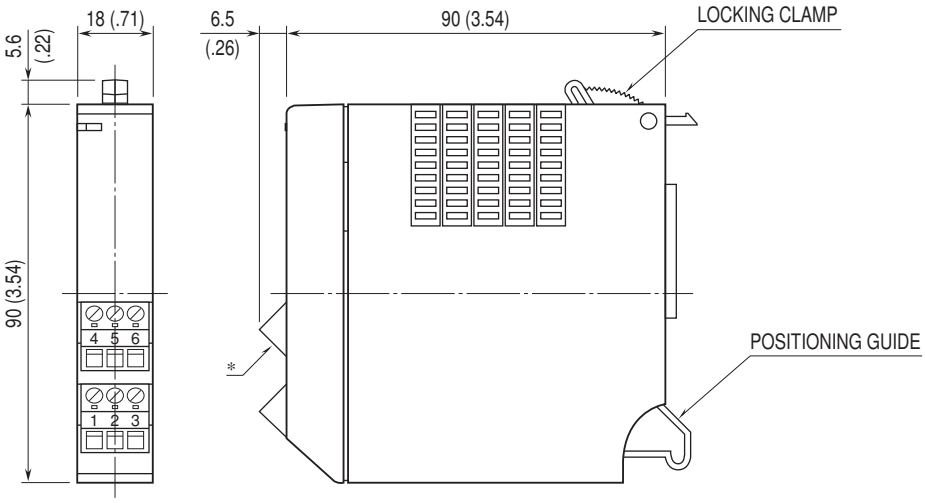
■ **FRONT VIEW**



■ **SIDE VIEW**

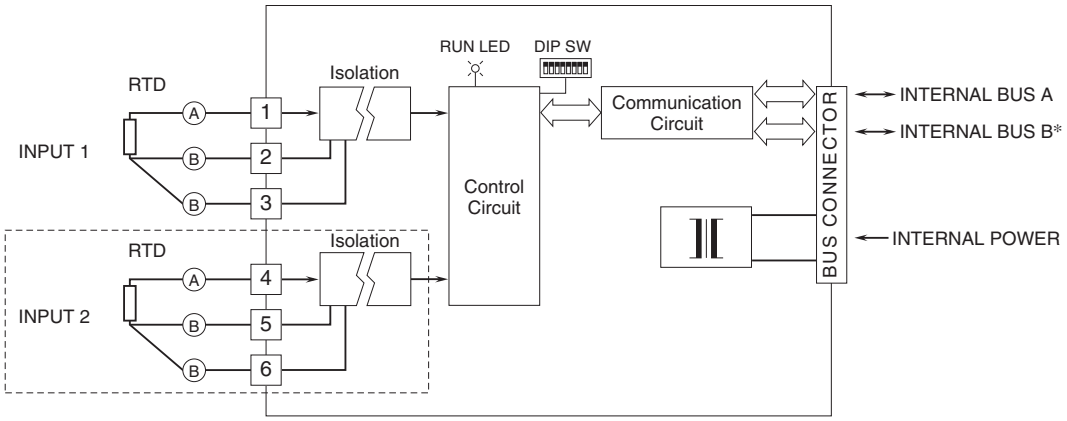


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



*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.