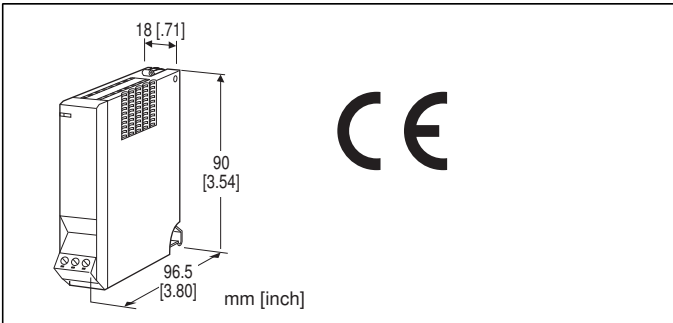


Remote I/O R5 Series

THERMOCOUPLE INPUT MODULE



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

ORDERING INFORMATION

- Code number: R5-TS[1][2][3]
- Specify a code from below for each of [1] through [3].
(e.g. R5-TS2W/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 mm² (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

Cold junction compensation: CJC sensor attached to the input terminals

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

Input resistance: 30 kΩ min.

Burnout sensing: ≤ 0.1 μA

Temperature range

T/C	°C	
	USABLE RANGE	CONFORMANCE RANGE
K (CA)*	-272 to +1472	-150 to +1370
E (CRC)*	-272 to +1120	-170 to +1000
J (IC)	-260 to +1300	-180 to +1200
T (CC)*	-272 to +500	-170 to +400
B (RH)*	24 to 1920	400 to 1760
R	-100 to +1860	200 to 1760
S	-100 to +1860	0 to 1760
C (WRe 5-26)	-52 to +2416	0 to 2315
N*	-272 to +1400	-130 to +1300
U	-252 to +700	-200 to +600
L	-252 to +1000	-200 to +900
P (Platinel II)	-52 to +1496	0 to 1395
(PR)	-52 to +1860	0 to 1760
T/C	°F	
K (CA)*	-458 to +2682	-238 to +2498
E (CRC)*	-458 to +2048	-274 to +1832
J (IC)	-436 to +2372	-292 to +2192
T (CC)*	-458 to +932	-274 to +752
B (RH)*	75 to 3488	752 to 3200
R	-148 to +3380	392 to 3200
S	-148 to +3380	32 to 3200
C (WRe 5-26)	-62 to +4381	32 to 4199
N*	-458 to +2552	-202 to +2372
U	-422 to +1292	-328 to +1112
L	-422 to +1832	-328 to +1652
P (Platinel II)	-62 to +2725	32 to 2543
(PR)	-62 to +3380	32 to 3200

*Accuracy degrades at temperatures close to the lower limit of the usable range.

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 (0.22 lb)

PERFORMANCE

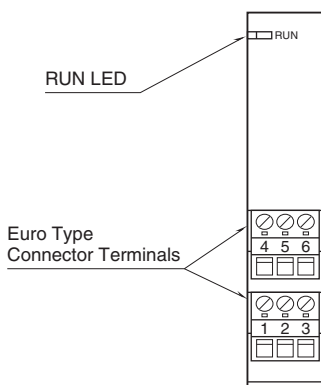
Conversion accuracy: $\pm 0.4^{\circ}\text{C}$ ($\pm 1^{\circ}\text{F}$)
Data range
°C, absolute temperature: Engineering unit value $\times 10$
 (integer)
°F: Engineering unit value (integer)
Data allocation: 1 (2 for 2-channel type)
Cold junction compensation error: $\pm 0.5^{\circ}\text{C}$ or $\pm 0.9^{\circ}\text{F}$
 (at $20^{\circ}\text{C} \pm 10^{\circ}\text{C}$ or $68^{\circ}\text{F} \pm 18^{\circ}\text{F}$)
Temp. coefficient: $\pm 0.015\%$ / $^{\circ}\text{C}$ ($\pm 0.008\%$ / $^{\circ}\text{F}$)
Response time: ≤ 0.2 sec. (0 - 90 %)
Burnout response time: ≤ 2 sec.
Insulation resistance: $\geq 100\ \text{M}\Omega$ 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

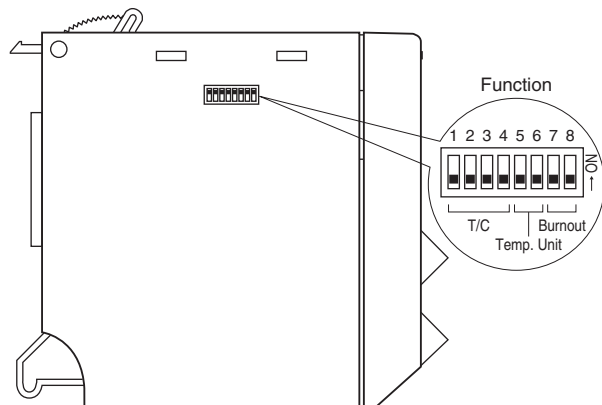
EU conformity:
 EMC Directive
 EMI EN 61000-6-4
 EMS EN 61000-6-2
 RoHS Directive

EXTERNAL VIEW

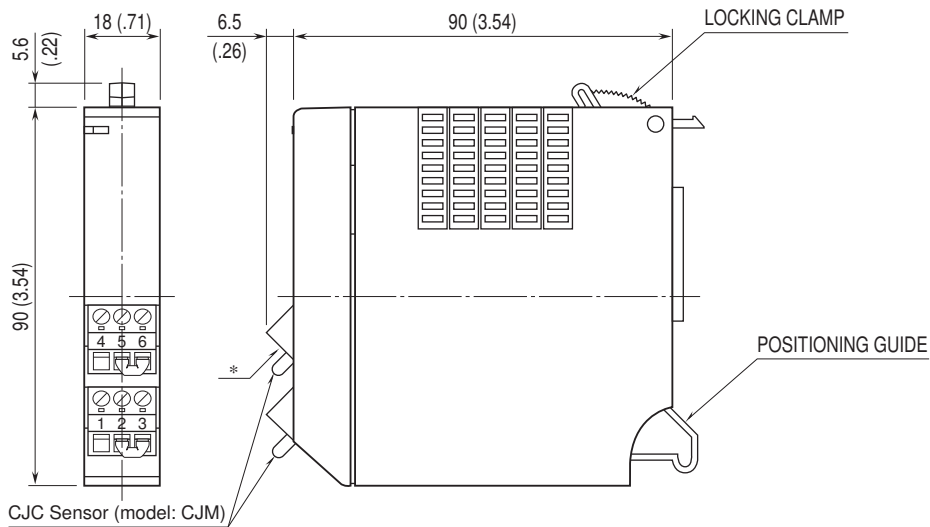
■ SIDE VIEW



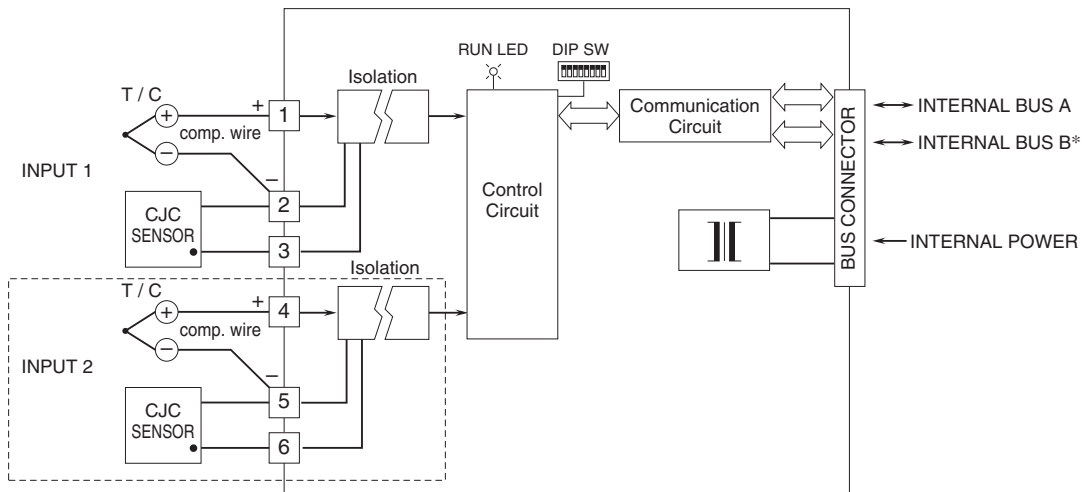
■ FRONT VIEW



EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.