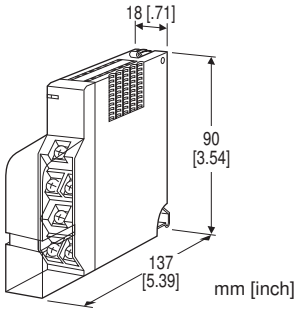
Remote I/O R5 Series

THERMOCOUPLE INPUT MODULE

(screw terminal block)



CE

MODEL: R5T-TS[1][2][3]

ORDERING INFORMATION

• Code number: R5T-TS[1][2][3]
Specify a code from below for each of [1] through [3].
(e.g. R5T-TS2W/Q)
• Specify the specification for option code /Q
(e.g. /C01/S01)

[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 (multiple selections)

COATING (For the detail, refer to M-System's web site.)
/C01: Silicone coating
/C02: Polyurethane coating
/C03: Rubber coating
TERMINAL SCREW MATERIAL
/S01: Stainless steel

GENERAL SPECIFICATIONS

Connection
Internal bus: Via the Installation Base (model: R5-BS)
Input: M3.5 screw terminal block (torque 0.8 N·m)
Internal power: Via the base (model: R5-BS)
Screw terminal: Nickel-plated steel (standard) or stainless steel
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	
	USABLE RANGE	CONFORMANCE RANGE
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: 110 g (0.24 lb)

PERFORMANCE

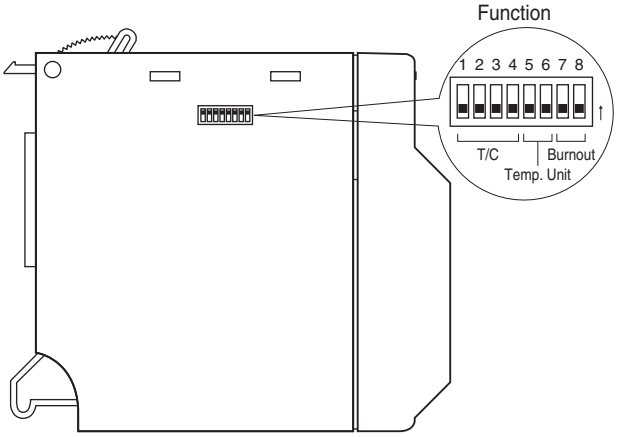
Conversion accuracy: ±0.4°C (±1°F)
Data range
°C, absolute temperature: Engineering unit value × 10 (integer)
°F: Engineering unit value (integer)
Data allocation: 1 (2 for 2-channel type)
Cold junction compensation error: ±0.5°C or ±0.9°F (at 20°C ±10°C or 68°F ±18°F)
Temp. coefficient: ±0.015 %/°C (±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

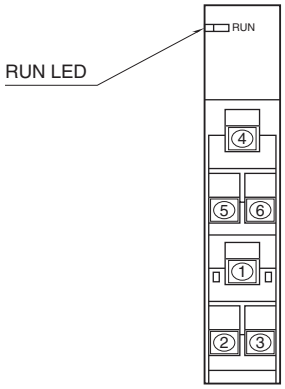
EU conformity:
EMC Directive
EMI EN 61000-6-4
EMS EN 61000-6-2
RoHS Directive

EXTERNAL VIEW

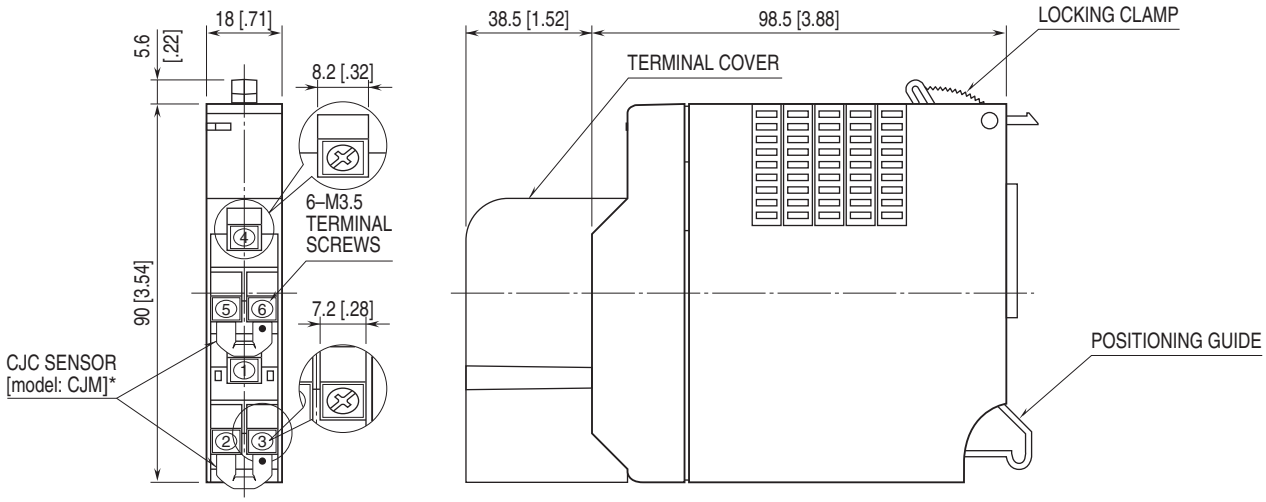
■ **SIDE VIEW**



■ **FRONT VIEW**

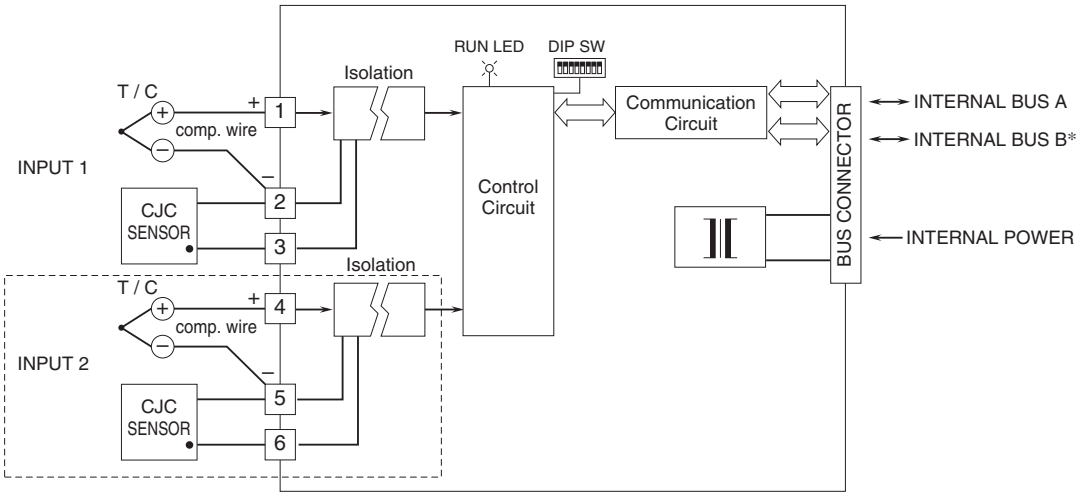


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



*CJC Sensor [Terminals 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.