

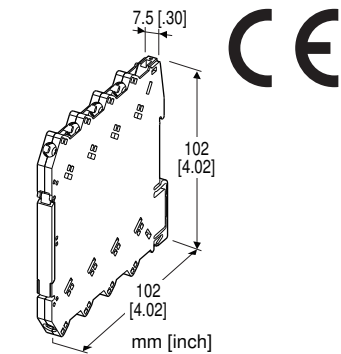
Remote I/O R6 Series

THERMOCOUPLE INPUT MODULE

(2 points, Screw terminal)

Functions & Features

- Accepts direct input from an thermocouple and provides an isolated, linearized DC signal compact size remote I/O module



MODEL: R6N-TS2[1]

ORDERING INFORMATION

- Code number: R6N-TS2[1]

Specify a code from below for [1].

(e.g. R6N-TS2/Q)

- Specify the specification for option code /Q

(e.g. /C01)

[1] 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

RELATED PRODUCTS

- PC configurator software (model: R6CON)

Downloadable at M-System's web site.

A dedicated cable is required to connect the module to the PC. Please refer to the internet software download site or the users manual for the PC configurator for applicable cable types.

GENERAL SPECIFICATIONS

Connection

Internal bus: Via the Installation Base (model: R6N-BS)

Input: M3 screw terminals (torque 0.5 N·m)

Internal power: Via the Installation Base (model: R6N-BS)

Recommended solderless terminal: Max. 5.8 mm (0.23") wide; Ones with insulation sleeve do not fit.

Applicable wire size: 0.2 - 2.5 mm²

Housing material: Flame-resistant resin (black)

Isolation: Input 1 to input 2 to internal bus or internal power

Zero adjustments: PC programming

Span adjustments: PC programming

Input type: Selectable with the side DIP SW or PC programming

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

Linearization: Standard

Cold Junction Compensation: CJC sensor incorporated

Module address: Selectable with DIP and rotary switches on the side

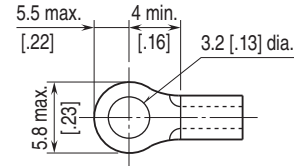
Configuration mode: With DIP switches on the side panel

Power indicator: Green LED; Refer to the instruction manual for details.

Status indicator: Bi-color (red/green) LED;

Refer to the instruction manual for details.

■ **Recommended solderless terminal (unit: mm [inch])**



INPUT SPECIFICATIONS

Thermocouple: K, E, J, T, B, R, S, C, N, U, L, P, PR

Input resistance: 30 kΩ min.

Burnout sensing: ≤ 0.1 μA

T/C	USABLE RANGE (°C)	CONFORMANCE RANGE (°C)
K (CA)	-272 to +1472	-150 to +1370
E (CRC)	-272 to +1100	-170 to +1000
J (IC)	-260 to +1300	-180 to +1200
T (CC)	-272 to +500	-170 to +400
B (RH)	24 to 1920	1000 to 1760
R	-100 to +1860	380 to 1760
S	-100 to +1860	400 to 1760
C (WRe 5-26)	-52 to +2416	100 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	300 to 1760

INSTALLATION

Current consumption: 20 mA

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: R6N-BS)

Weight: 60 g (2.1 oz)

PERFORMANCE

Conversion accuracy: $\pm 1^{\circ}\text{C}$ ($\pm 1.8^{\circ}\text{F}$) except $\pm 2^{\circ}\text{C}$ ($\pm 3.6^{\circ}\text{F}$)

for B, R, S, C, PR

Conversion rate: 250 msec. / 500 msec.(PC programmable.

Factory set to 500 msec.)

Converted data range:

- Engineering unit value ($^{\circ}\text{C}$, K) $\times 10$ (integer)
- Engineering unit value ($^{\circ}\text{F}$)

Data allocation: 2

Cold junction compensation error:

$\pm 3^{\circ}\text{C}$ at $25 \pm 10^{\circ}\text{C}$

$\pm 5.4^{\circ}\text{F}$ at $77 \pm 18^{\circ}\text{F}$

Temp. coefficient: $\pm 0.01\%$ / $^{\circ}\text{C}$ ($\pm 0.006\%$ / $^{\circ}\text{F}$) of max. span

Response time: Conversion rate $\times 2 + 50$ msec. or less

Line voltage effect: $\pm 0.1\%$ over voltage range

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 to ground)

STANDARDS & APPROVALS

EU conformity:

EMC Directive

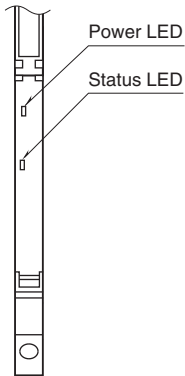
EMI EN 61000-6-4

EMS EN 61000-6-2

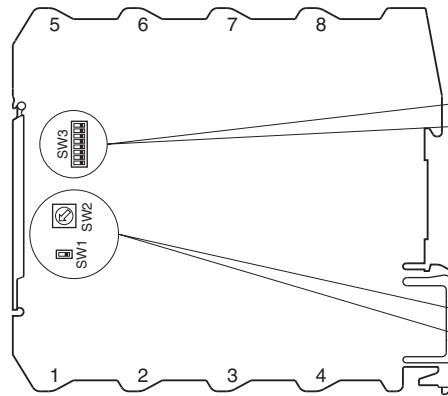
RoHS Directive

EXTERNAL VIEW

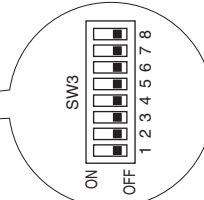
• Front View (cover opened)



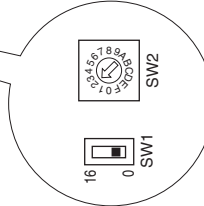
• Side View



Operating Mode Setting

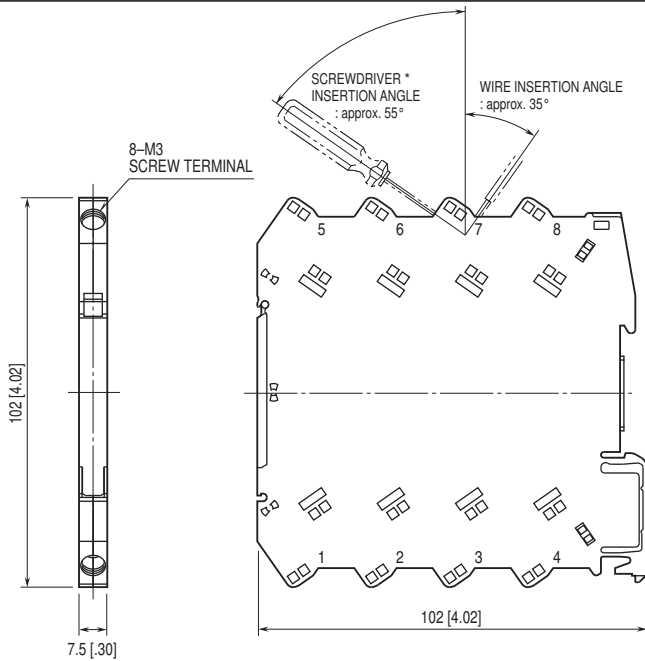


Module Address Setting



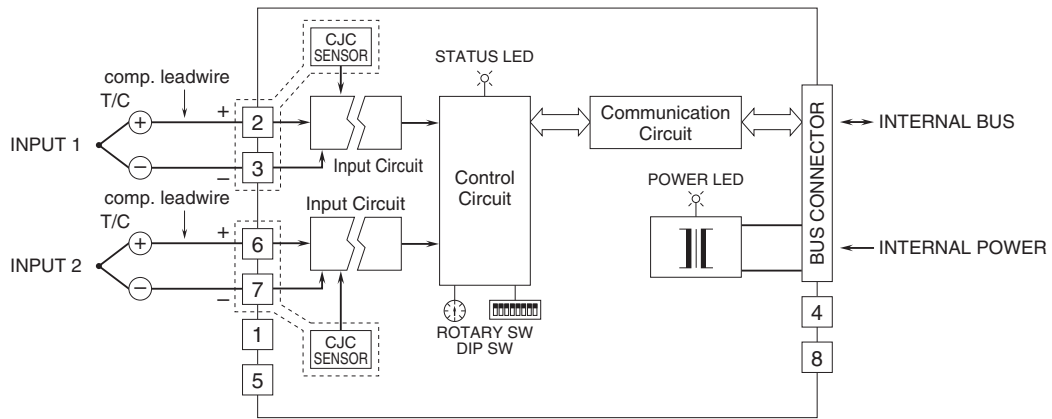
Refer to the instruction manual for setting procedures.

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



*Screwdriver stem diameter: 6 mm [0.24"] or less

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.