

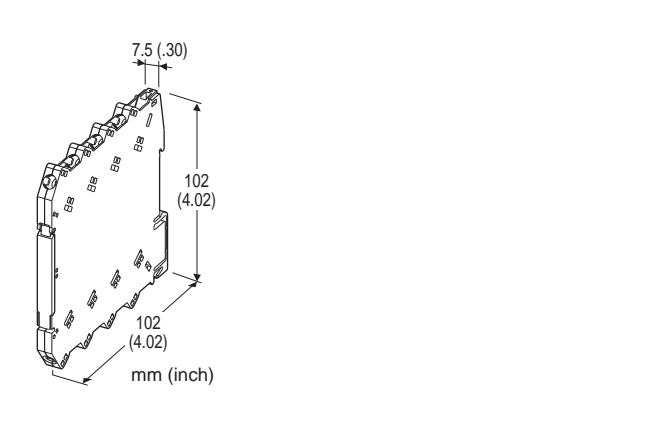
## Remote I/O R6 Series

### THERMOCOUPLE INPUT MODULE

(high-accuracy, 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-TS2A[1]

#### ORDERING INFORMATION

- Code number: R6N-TS2A[1]  
Specify a code from below for [1].  
(e.g. R6N-TS2A/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 mm<sup>2</sup>

**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 attached to the input terminals

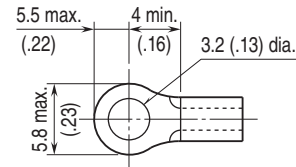
**Module address:** Selectable with DIP and rotary switches on the side

**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

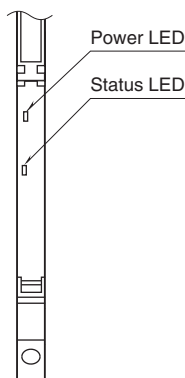
- Current consumption:** 20 mA
- Operating temperature:** -10 to +55°C (14 to 131°F)
- Operating humidity:** 30 to 90 %RH (non-condensing)
- Atmosphere:** No corrosive gas or heavy dust
- Mounting:** Installation Base (model: R6N-BS)
- Weight:** 70 g (2.5 oz)

## PERFORMANCE

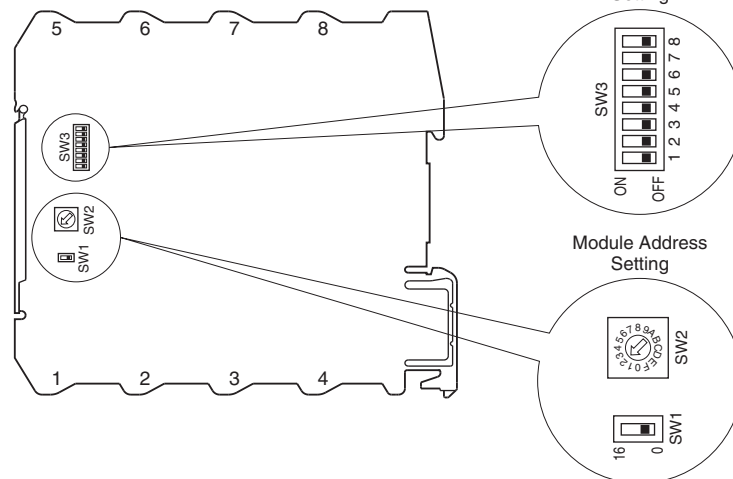
- Conversion accuracy:**  $\pm 0.5^{\circ}\text{C}$  ( $\pm 0.9^{\circ}\text{F}$ ) except  $\pm 1^{\circ}\text{C}$  ( $\pm 1.8^{\circ}\text{F}$ ) for B, R, S, C, PR
- Conversion rate:** 250 msec. / 500 msec.(PC programmable. Factory set to 500 msec.)
- Converted data range:**
  - Engineering unit value ( $^{\circ}\text{C}$ , K)  $\times 10$  (integer)
  - Engineering unit value ( $^{\circ}\text{F}$ )
- Data allocation:** 2
- Cold junction compensation error:**
  - $\pm 1^{\circ}\text{C}$  max. at  $25 \pm 10^{\circ}\text{C}$
  - $\pm 1.8^{\circ}\text{F}$  max. 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)

## EXTERNAL VIEW

• Front View (cover opened)

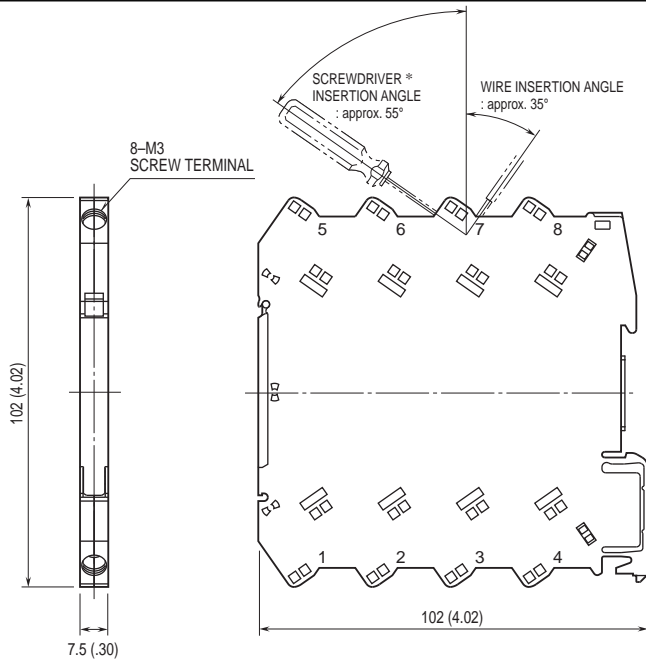


• Side View



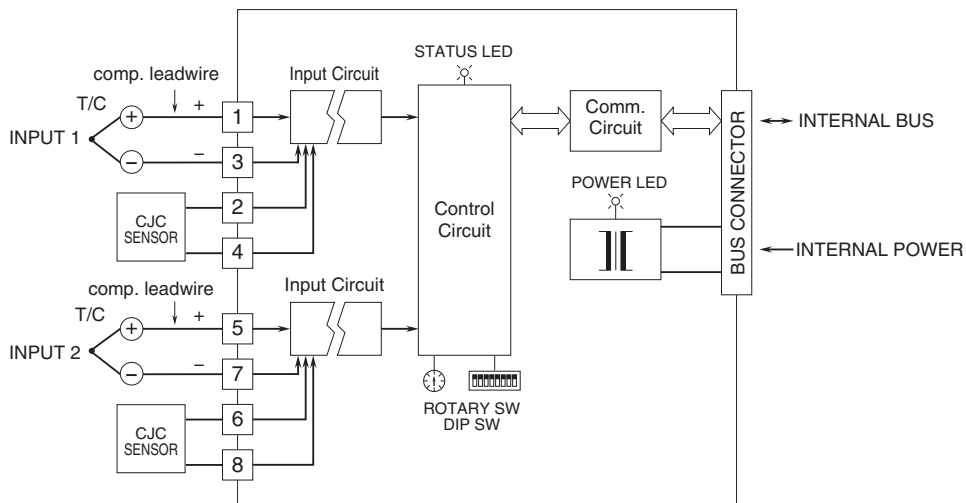
Refer to the instruction manual for setting procedures.

## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



\*Screwdriver stem diameter: 6 mm (.24") or less

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.