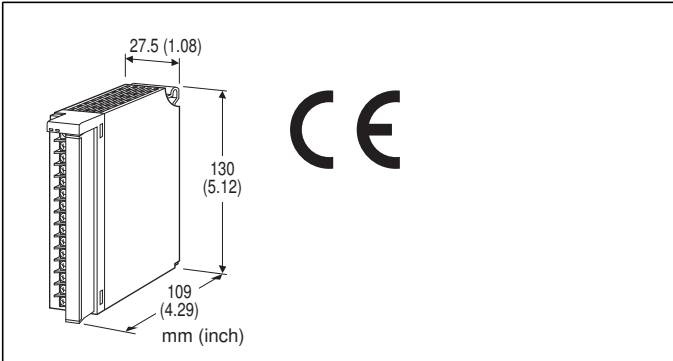


Remote I/O R3 Series

RTD INPUT MODULE

(high accuracy, 8 points, isolated)



MODEL: R3-RS8A[1][2]

ORDERING INFORMATION

- Code number: R3-RS8A[1][2]
Specify a code from below for each of [1] and [2].
(e.g. R3-RS8AW/CE/Q)
- Specify the specification for option code /Q
(e.g. /C01/SET)

NO. OF CHANNELS

8A: 8 channels, high accuracy

[1] COMMUNICATION MODE

S: Single

W: Dual

[2] OPTIONS (multiple selections)

Standards & Approvals

blank: Without CE

/CE: CE marking

Other Options

blank: none

/Q: Option other than the above (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

EX-FACTORY SETTING

/SET: Preset according to the Ordering Information Sheet

(No. ESU-8407)

GENERAL SPECIFICATIONS

Connection

Internal bus: Via the Installation Base (model: R3-BSx)

Input: M3 separable screw terminal (torque 0.5 N·m)

Internal power: Via the Installation Base (model: R3-BSx)

Screw terminal: Nickel-plated steel

Isolation: Input 1 to input 2 to input 3 to input 4 to input 5 to input 6 to input 7 to input 8 to internal bus or internal power

Sensor type: Selectable with the side DIP SW

(Independent types selectable per group of 4 channels.)

Temperature unit: °C or °F selectable with the side DIP SW

Conversion rate: 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.

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

Red with burnout; Green in normal operating conditions.

INPUT SPECIFICATIONS

Maximum leadwire resistance: 10 Ω per wire

Sensing current: ≤ 1 mA

Temperature range

RTD	Conformance Range °C	Burnout Values °C × 100	
		Lower	Upper
Pt 100 (JIS '97, IEC)	-100 to +200	-24000	+32767
Pt 100 (JIS '89)	-100 to +200	-24000	+32767
JPt 100 (JIS '89)	-100 to +200	-23600	+32767
RTD	Conformance Range °F	Burnout Values °F × 10	
		Lower	Upper
Pt 100 (JIS '97, IEC)	-148 to +392	-4000	+16520
Pt 100 (JIS '89)	-148 to +392	-4000	+16520
JPt 100 (JIS '89)	-148 to +392	-3298	+10400

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: R3-BSx)

Weight: 250 g (0.55 lb)

PERFORMANCE

Conversion accuracy: $\pm 0.2^{\circ}\text{C}$ or $\pm 0.4^{\circ}\text{F}$

Conversion rate: 250 msec. or 1 sec. selectable

Data range

$^{\circ}\text{C}$: Engineering unit value $\times 100$ (integer)

$^{\circ}\text{F}$: Engineering unit value $\times 10$ (integer)

Data allocation: 8

Current consumption: 100 mA

Temp. coefficient: $\pm 0.015\text{ }^{\circ}\text{C}/^{\circ}\text{C}$ ($\pm 0.008\text{ }^{\circ}\text{C}/^{\circ}\text{F}$)

Resolution: 0.03°C (0.1°F)

Burnout response time: ≤ 2 sec.

Insulation resistance: $\geq 100\text{ M}\Omega$ with 500 V DC

Dielectric strength: 1000 V AC @ 1 minute (input 1 to input

2 to input 3 to input 4 to input 5 to input 6 to input 7 to

input 8 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

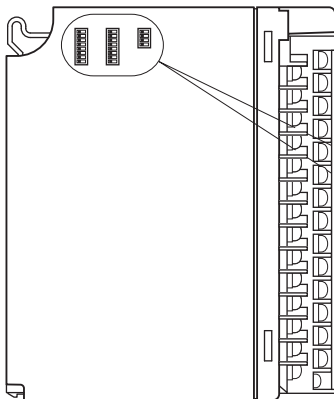
EMS EN 61000-6-2

RoHS Directive

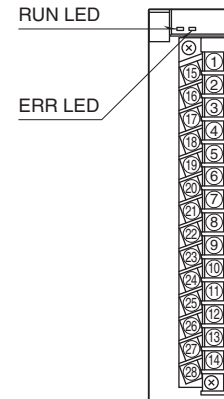
EN 50581

EXTERNAL VIEW

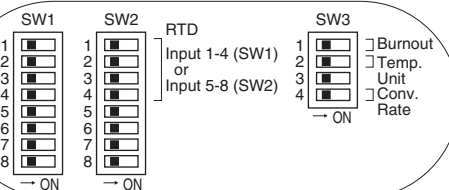
■ SIDE VIEW



■ FRONT VIEW



Functions



INPUT DATA DESCRIPTIONS

■ ANALOG DATA (TEMPERATURE DATA)

16-bit binary data.

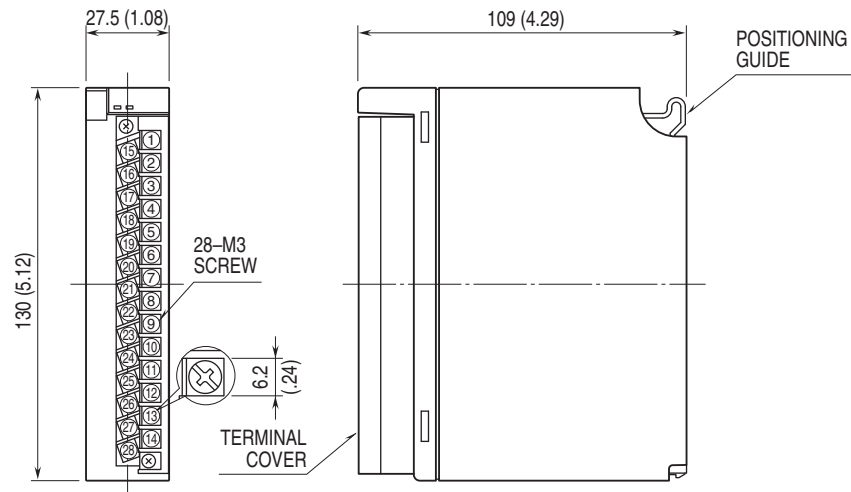
With $^{\circ}\text{C}$ temperature unit, raw data is multiplied by 100. For example, 25.5°C is converted into 2550.

With $^{\circ}\text{F}$ temperature unit, raw data is multiplied by 10. For example, 135.4°F is converted into 1354.

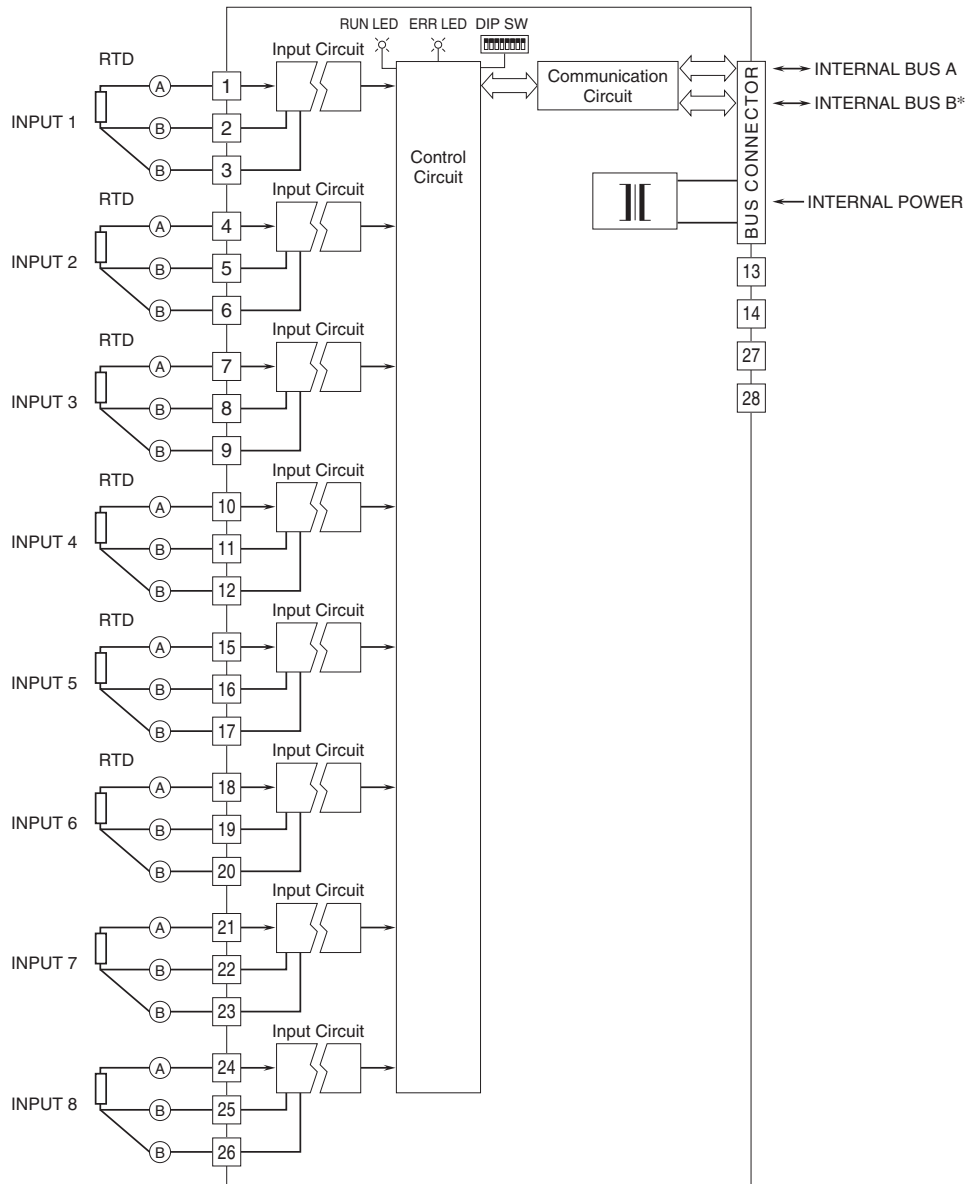
Minus temperature is converted into negative values, represented in 2's complements.



EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



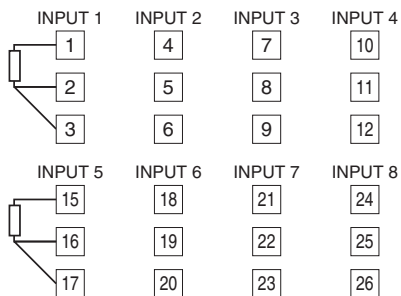
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*For dual redundant communication.

• Unused Input Channels

Close across the unused input terminals with a resistor as shown below and set the DIP switch for an RTD. The resistance value must match the RTD type (100Ω for Pt 100).



Unused channels left open are equal to the burnout, which turns the red ERR LED on and sets a burnout flag at the PLC or the host device.

Unused channels can be specified and set so on the PC Configurator Software (model: R3CON) without needing to connect resistors at the field terminals.



Specifications are subject to change without notice.