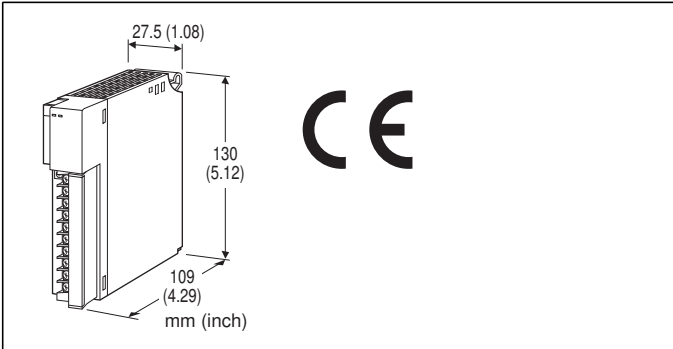


Remote I/O R3 Series

RTD INPUT MODULE

(4 points, isolated)



MODEL: R3-RS4[1][2]

ORDERING INFORMATION

- Code number: R3-RS4[1][2]
- Specify a code from below for each [1] and [2].
(e.g. R3-RS4W/CE/Q)
- Specify the specification for option code /Q
(e.g. /C01)

NO. OF CHANNELS

4: 4

[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

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: 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 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

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 the burnout; Green in normal operating conditions.

INPUT SPECIFICATIONS

Maximum leadwire resistance: 100 Ω per wire

Sensing current: ≤ 1 mA

Temperature range

RTD	°F	
	USABLE RANGE	CONFORMANCE RANGE
Pt 100 (JIS '97, IEC)	-240 to +900	-200 to +850
Pt 100 (JIS '89)	-240 to +900	-200 to +660
JPt 100 (JIS '89)	-236 to +560	-200 to +510
Pt 50Ω (JIS '81)	-236 to +700	-200 to +649
Ni 100	-100 to +252	-80 to +250
Cu 10 @ 25°C	-212 to +312	-50 to +250
Pt 1000	-240 to +900	-200 to +850
Ni 508.4Ω	-100 to +332	-50 to +200
Cu 50	-100 to +200	-50 to +150
Ni 1000	-56 to +152	-56 to +152

RTD	°C	
	USABLE RANGE	CONFORMANCE RANGE
Pt 100 (JIS '97, IEC)	-400 to +1652	-328 to +1562
Pt 100 (JIS '89)	-400 to +1652	-328 to +1220
JPt 100 (JIS '89)	-393 to +1040	-328 to +950
Pt 50Ω (JIS '81)	-393 to +1292	-328 to +1200
Ni 100	-148 to +486	-112 to +482
Cu 10 @ 25°C	-350 to +594	-58 to +482
Pt 1000	-400 to +1652	-328 to +1562
Ni 508.4Ω	-148 to +630	-58 to +392
Cu 50	-148 to +392	-58 to +302
Ni 1000	-69 to +306	-69 to +306

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: R3-BSx)

Weight: 200 g (0.44 lb)

PERFORMANCE

Conversion accuracy: $\pm 1.0^{\circ}\text{C}$ ($\pm 1.8^{\circ}\text{F}$) except $\pm 3.0^{\circ}\text{C}$ ($\pm 5.4^{\circ}\text{F}$) for Cu 10 @ 25°C

Conversion rate: 250 msec. or 1 sec. selectable

Data range

$^{\circ}\text{C}$, absolute temperature: Engineering unit value $\times 10$ (integer)

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

Data allocation: 4

Current consumption: 70 mA

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

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 input 3 to input 4 to internal bus or internal power)

2000 V AC @ 1 minute (power input to FG; isolated on the power supply module)

STANDARDS & APPROVALS

CE conformity:

EMC Directive (2004/108/EC)

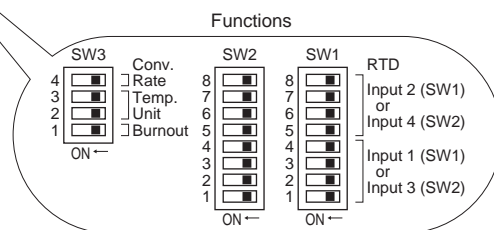
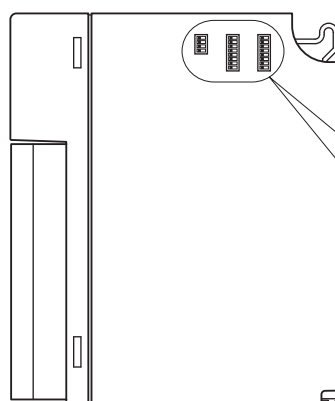
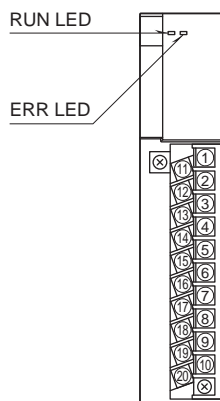
EMI EN 61000-6-4: 2007/A1: 2011

EMS EN 61000-6-2: 2005

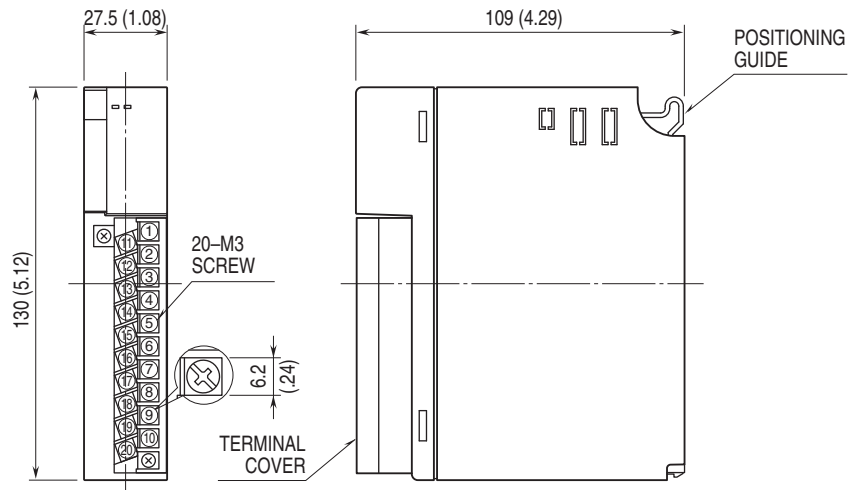
EXTERNAL VIEW

■ FRONT VIEW

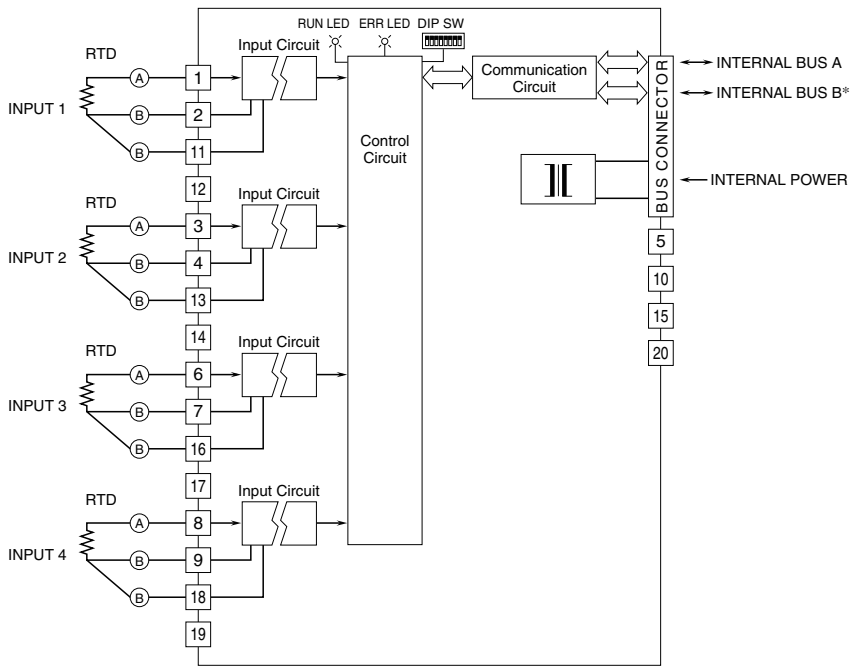
■ SIDE VIEW



EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



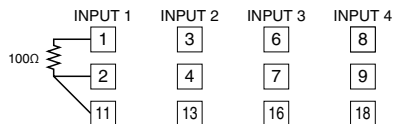
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*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 Pt 100 input.



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.



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