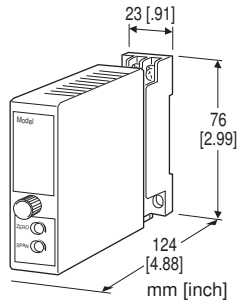
Super-mini Signal Conditioners Mini-M Series

RESISTANCE/RESISTANCE CONVERTER

Functions & Features

• Accepts a resistance input from an RTD and provides a multiplied resistance value

• High-density mounting



MODEL: M2RR–[1]–[2][3]

ORDERING INFORMATION

• Code number: M2RR-[1]-[2][3]

Specify a code from below for each of [1] through [3].
(e.g. M2RR-5-M/Q)

• Input resistance range (e.g. 100 – 150 Ω)

• Specify the specification for option code /Q
(e.g. /C01/S01)

[1] I/O RATIO

(n = Output / Input)

2 : n = 2

5: n = 5

10: n = 10

0: Specify 'n' (≥ 1.20)

[2] POWER INPUT

AC Power

M: 85 – 264 V AC (Operational voltage range 85 – 264 V, 47 – 66 Hz)

DC Power

R2: 11 – 27 V DC
(Operational voltage range 11 – 27 V, ripple 10 %p-p max.)

P: 110 V DC
(Operational voltage range 85 – 150 V, ripple 10 %p-p max.)

[3] OPTIONS

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

/C04: Polyolefin coating

TERMINAL SCREW MATERIAL

/S01: Stainless steel

GENERAL SPECIFICATIONS

Construction: Plug-in

Connection: M3 screw terminals (torque 0.8 N·m)

Screw terminal: Chromated steel (standard) or stainless steel

Housing material: Flame-resistant resin (black)

Isolation: Input or output to power

Zero adjustment: ±2 % of the output resistance (measuring current ≤ 2 mA DC)

Span (gain) adjustment: ± 5 % of the output resistance

I/O ratio: 1.20 – 100.00

INPUT SPECIFICATIONS

Resistance: 40 Ω to 5 kΩ

OUTPUT SPECIFICATIONS

Resistance: 80 Ω to 10 kΩ

Maximum measuring voltage: 12 V DC

Minimum measuring current: 1 mA DC

Maximum measuring current: 20 mA DC

Note: AC measurement is unable.

INSTALLATION

Power Consumption

•AC

Approx. 1.0 VA at 100 V

Approx. 2.5 VA at 200 V

Approx. 3.5 VA at 264 V

•**DC**: Approx. 0.5 W

Operating temperature: -5 to +55°C (23 to 131°F)

Operating humidity: 30 to 90 %RH (non-condensing)

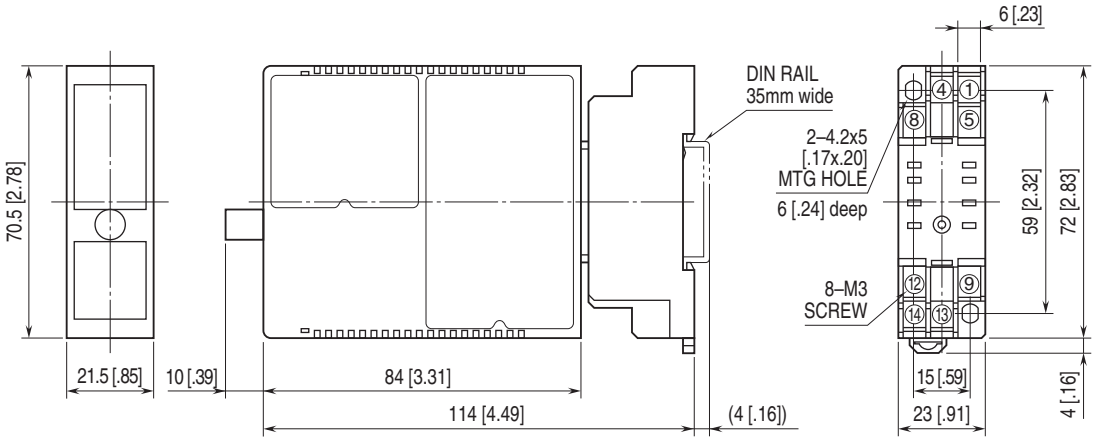
Mounting: Surface or DIN rail

Weight: 150 g (0.33 lb)

PERFORMANCE based on the resistance output

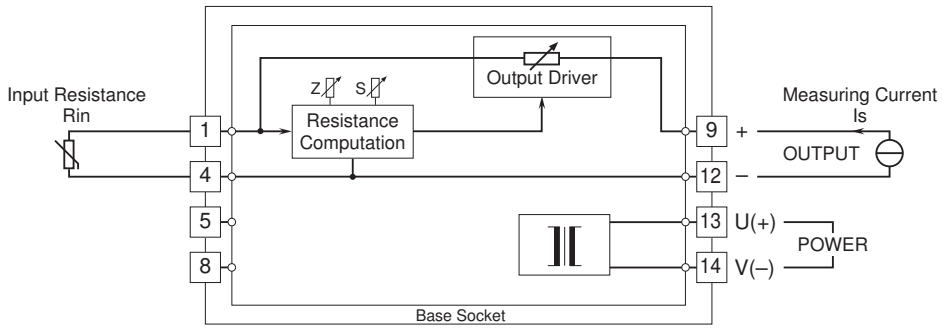
Accuracy: ± 0.1 % or 0.1 Ω, whichever is greater.
Temp. coefficient: ±0.04 %/°C (±0.02 %/°F)
(n = 5, Rin = 100 Ω, Is = 7 mA)
The following equation is applied for other cases:
Temp. coefficient (%/°C) = (5 × n) ÷ (Rin (Ω) × Is (mA))
n = I/O ratio
Rin = Input resistance
Is = Measuring current
Response time: ≤ 50 msec. (0 – 90 %)
Line voltage effect: ±0.1 % over voltage range
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 2000 V AC @1 minute (input or output to power to ground)

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



• When mounting, no extra space is needed between units.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



⚠ Specifications are subject to change without notice.