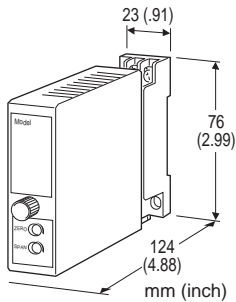


## Super-mini Signal Conditioners Mini-M Series

### 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 [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

##### TERMINAL SCREW MATERIAL

/S01: Stainless steel

#### GENERAL SPECIFICATIONS

**Construction:** Plug-in

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

**Housing material:** Flame-resistant resin (black)

**Isolation:** Input or output to power (non-isolated between input and output)

**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 Power input

Approx. 1.0 VA at 100 V

Approx. 2.5 VA at 200 V

Approx. 3.5 VA at 264 V

• **DC Power input:** 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 lbs)

#### 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))

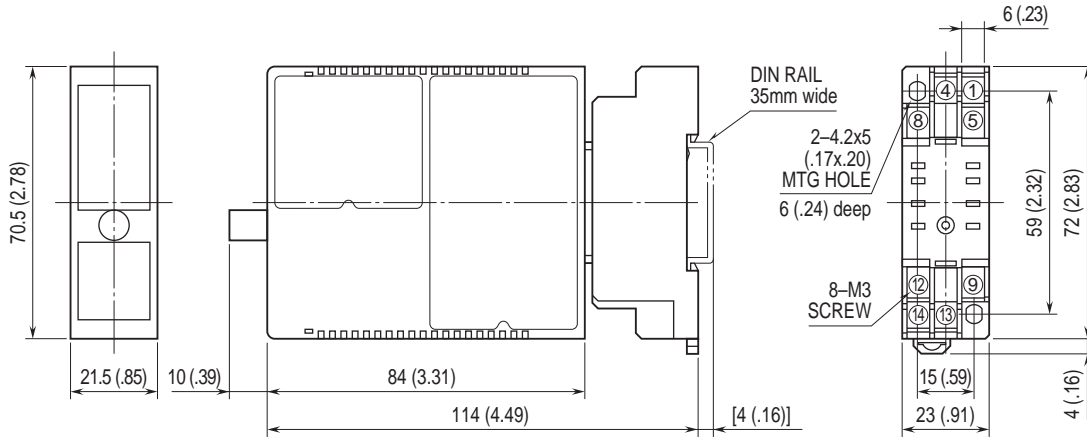
n = I/O ratio

Rin = Input resistance

Is = Measuring current

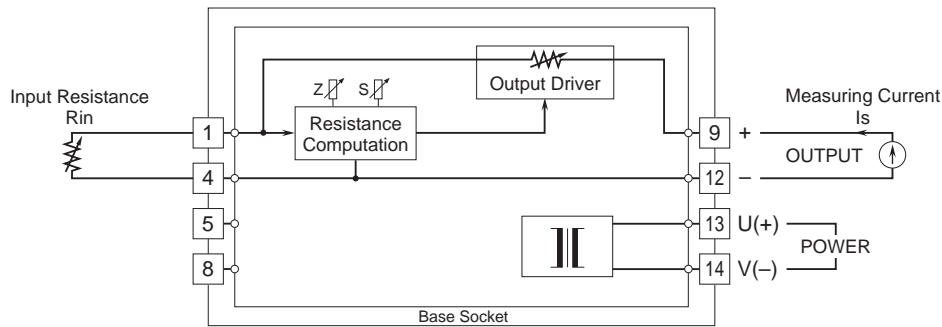
**Response time:**  $\leq 50$  msec. (0 - 90 %)
   
**Line voltage effect:**  $\pm 0.1$  % over voltage range
   
**Insulation resistance:**  $\geq 100$  M $\Omega$  with 500 V DC
   
**Dielectric strength:** 2000 V AC @1 minute (input or output to power to ground)

## DIMENSIONS unit: mm (inch)



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

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.