

## Plug-in Signal Conditioners M-UNIT

### 50 mA OUTPUT TRANSMITTER

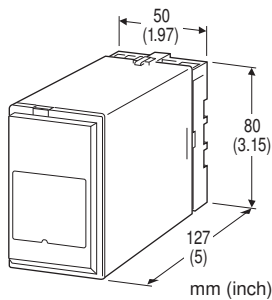
(non-isolated)

#### Functions & Features

- Converting a DC input into a 10 – 50 mA DC signal
- High-density mounting

#### Typical Applications

- Interfacing between 10 – 50 mA and 4 – 20 mA systems



### MODEL: VA-[1]-[2][3]

#### ORDERING INFORMATION

- Code number: VA-[1]-[2][3]
- Specify a code from below for each [1] through [3].  
(e.g. VA-6-B/Q)
- Special input range (For codes Z & 0)
- Specify the specification for option code /Q  
(e.g. /C01/S01)

#### [1] INPUT

##### Current

- A: 4 – 20 mA DC (Input resistance 250 Ω)
- A1: 4 – 20 mA DC (Input resistance 50 Ω)
- B: 2 – 10 mA DC (Input resistance 500 Ω)
- C: 1 – 5 mA DC (Input resistance 1000 Ω)
- D: 0 – 20 mA DC (Input resistance 50 Ω)
- E: 0 – 16 mA DC (Input resistance 62.5 Ω)
- F: 0 – 10 mA DC (Input resistance 100 Ω)
- G: 0 – 1 mA DC (Input resistance 1000 Ω)
- H: 10 – 50 mA DC (Input resistance 100 Ω)
- Z: Specify current (See INPUT SPECIFICATIONS)

##### Voltage

- 1: 0 – 10 mV DC (Input resistance 10 kΩ min.)
- 2: 0 – 100 mV DC (Input resistance 100 kΩ min.)
- 3: 0 – 1 V DC (Input resistance 1 MΩ min.)
- 4: 0 – 10 V DC (Input resistance 1 MΩ min.)
- 5: 0 – 5 V DC (Input resistance 1 MΩ min.)
- 6: 1 – 5 V DC (Input resistance 1 MΩ min.)

4W: -10 – +10 V DC (Input resistance 1 MΩ min.)  
0: Specify voltage (See INPUT SPECIFICATIONS)

#### OUTPUT

##### Current

10 – 50 mA DC (Load resistance 300 Ω max.)

#### [2] POWER INPUT

##### AC Power

- B: 100 V AC
- C: 110 V AC
- F: 120 V AC
- G: 200 V AC
- H: 220 V AC
- J: 240 V AC

#### [3] OPTIONS

- blank: none
- /Q: With options (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: M3.5 screw terminals

Screw terminal: Chromated steel (standard) or stainless steel

Housing material: Flame-resistant resin (black)

Isolation: Input or output to power

Overrange output: Approx. -10 to +120 % at 100 Ω load

Zero adjustment: -5 to +5 % (front)

Span adjustment: 95 to 105 % (front)

#### INPUT SPECIFICATIONS

##### ■ DC Current:

Shunt resistor attached to the input terminals (0.5 W)  
Specify input resistance value for code Z.

##### ■ DC Voltage: -300 – +300 V DC

Minimum span: 10 mV

Offset: Max. 1.5 times span

##### Input resistance

Span 10 – 100 mV : ≥ 10 kΩ

Span 0.1 – 1 V : ≥ 100 kΩ

Span ≥ 1 V : ≥ 1 MΩ



## INSTALLATION

### Power input

•AC: Operational voltage range: rating  $\pm 10\%$ ,  
50/60  $\pm 2$  Hz, approx. 3 VA

Operating temperature:  $-5$  to  $+55^{\circ}\text{C}$  ( $23$  to  $131^{\circ}\text{F}$ )

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

Mounting: Surface or DIN rail

Weight: 400 g (0.88 lb)

## PERFORMANCE in percentage of span

Accuracy:  $\pm 0.1\%$

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

Response time:  $\leq 0.5$  sec. (0 - 90 %)

Line voltage effect:  $\pm 0.1\%$  over voltage range

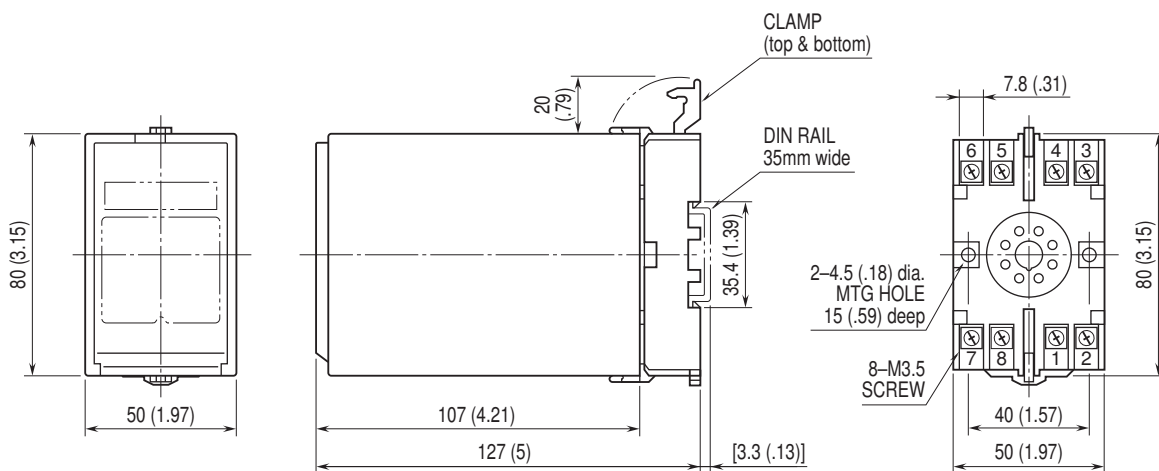
Insulation resistance:  $\geq 100\ \text{M}\Omega$  with 500 V DC

Dielectric strength: 1000 V AC @ 1 minute

(input or output to power)

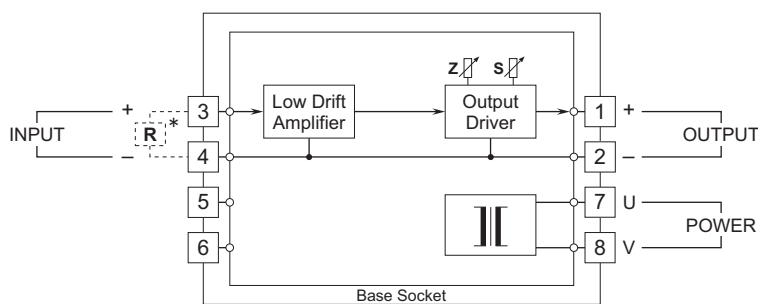
2000 V AC @ 1 minute (input or output or power to ground)

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



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

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



\*Input shunt resistor attached for current input.



Specifications are subject to change without notice.



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