

## Plug-in Signal Conditioners M-UNIT

### HIGH/LOW SELECTOR

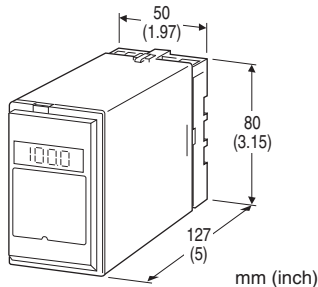
(non-isolated)

#### Functions & Features

- Monitoring two DC input signals and transmitting an output signal proportional to the higher or lower input
- LCD meter indicates the selected input signals (engineering unit display selectable)
- Simple loop test output (0 % and 100 %)
- High-density mounting

#### Typical Applications

- Selecting greater flow, pressure, etc. for control
- Heating control by multiple T/C's on a furnace



## MODEL: SE-[1][2][3]-[4][5]

### ORDERING INFORMATION

- Code number: SE-[1][2][3]-[4][5]
- Specify a code from below for each [1] through [5].  
(e.g. SE-1AA-B/E2/Q)
- Special output range (For codes Z & 0)
- Specify the specification for option code /Q  
(e.g. /C01/S01)

### [1] SELECTING FUNCTION

- 1: Low input  
2: High input

### [2] INPUT

#### Current

- A: 4 - 20 mA DC (Input resistance 250  $\Omega$ )  
B: 2 - 10 mA DC (Input resistance 500  $\Omega$ )  
C: 1 - 5 mA DC (Input resistance 1000  $\Omega$ )  
H: 10 - 50 mA DC (Input resistance 100  $\Omega$ )

#### Voltage

- 6: 1 - 5 V DC (Input resistance 1 M $\Omega$  min.)

### [3] OUTPUT

#### Current

- A: 4 - 20 mA DC (Load resistance 750  $\Omega$  max.)  
B: 2 - 10 mA DC (Load resistance 1500  $\Omega$  max.)  
C: 1 - 5 mA DC (Load resistance 3000  $\Omega$  max.)  
D: 0 - 20 mA DC (Load resistance 750  $\Omega$  max.)  
E: 0 - 16 mA DC (Load resistance 900  $\Omega$  max.)  
F: 0 - 10 mA DC (Load resistance 1500  $\Omega$  max.)  
G: 0 - 1 mA DC (Load resistance 15 k $\Omega$  max.)  
Z: Specify current (See OUTPUT SPECIFICATIONS)

#### Voltage

- 1: 0 - 10 mV DC (Load resistance 10 k $\Omega$  min.)  
2: 0 - 100 mV DC (Load resistance 100 k $\Omega$  min.)  
3: 0 - 1 V DC (Load resistance 100  $\Omega$  min.)  
4: 0 - 10 V DC (Load resistance 1000  $\Omega$  min.)  
5: 0 - 5 V DC (Load resistance 500  $\Omega$  min.)  
6: 1 - 5 V DC (Load resistance 500  $\Omega$  min.)  
4W: -10 - +10 V DC (Load resistance 2000  $\Omega$  min.)  
5W: -5 - +5 V DC (Load resistance 1000  $\Omega$  min.)  
0: Specify voltage (See OUTPUT SPECIFICATIONS)

### [4] POWER INPUT

#### AC Power

- B: 100 V AC  
C: 110 V AC  
D: 115 V AC  
F: 120 V AC  
G: 200 V AC  
H: 220 V AC  
J: 240 V AC

#### DC Power

- S: 12 V DC  
R: 24 V DC  
V: 48 V DC  
P: 110 V DC (Not selectable with Option /E2.)

### [5] OPTIONS (multiple selections)

#### LCD Meter (after selection)

- blank: Without  
/E: With (0.0 - 100.0 % display)  
/E2: With (in engineering unit with backlight and the simple loop test output)

#### 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:** M3.5 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 1 - 5 V**Selecting operation:** Automatic**Simple loop test output:** 0 % and 100 % signal simulated by selecting the front switch positions. (Only for option code /E2)**■ DISPLAY (LCD meter)**• **Option code:** /E**LCD digital display:** 0.0 - 100.0 % (min. digit 0.1 %)  
(No scaling)• **Option code:** /E2**LCD digital display:** Engineering unit**Display scaling:** -10000 - +10000**Decimal position:**  $10^{-1}$  -  $10^{-4}$  or no decimal point**Engineering unit:** %,  $\mu$ V, mV, V, mA, A, °C, °F,  $\Omega$ , DEG K, mHz, Hz, kHz, VAC, AAC, mg, g, kg, t, rpm or rps selectable**Back light:** Green at normal, red at loop test output enable**Factory setting:** scaling 0.00 - 100.00, unit: %**INPUT SPECIFICATIONS****■ DC Current:**

Shunt resistor attached to the input terminals (0.5 W)

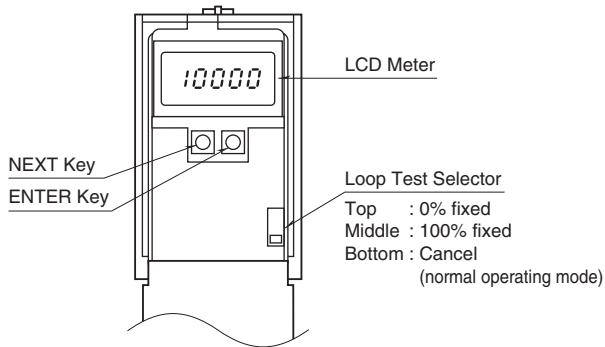
**OUTPUT SPECIFICATIONS****■ DC Current:** 0 - 20 mA DC**Minimum span:** 1 mA**Offset:** Max. 1.5 times span**Load resistance:** Output drive 15 V max.**■ DC Voltage:** -10 - +12 V DC**Minimum span:** 5 mV**Offset:** Max. 1.5 times span**Load resistance:** Output drive 10 mA max.; 5 mA for negative voltage output; at  $\geq 0.5$  V**INSTALLATION****Power input**• **AC:** Operational voltage range: rating  $\pm 10$  %, 50/60  $\pm 2$  Hz, approx. 2 VA

(approx. 3 VA with Option /E2)

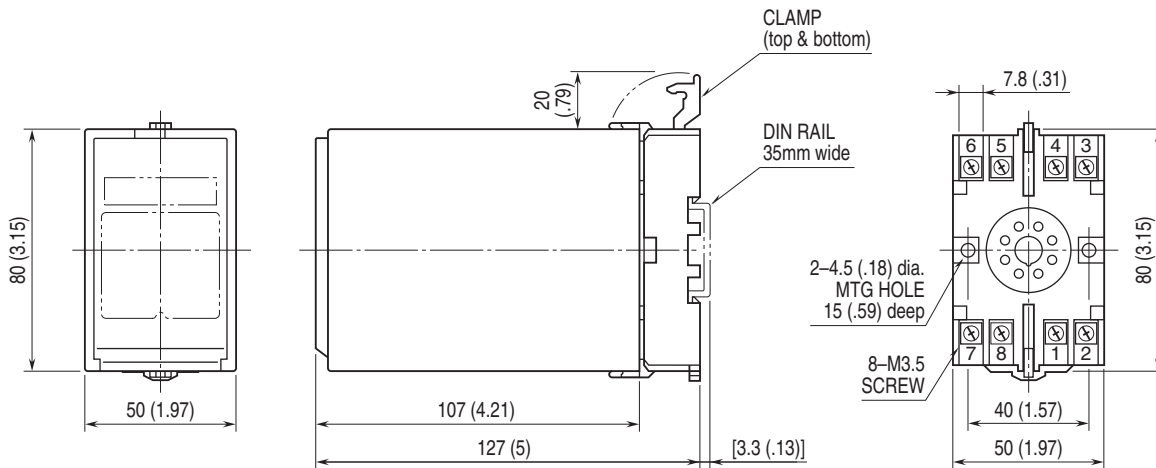
• **DC:** Operational voltage range: rating  $\pm 10$  %, or 85 - 150 V for 110 V rating ripple 10 %p-p max.  
approx. 2.5 W (110 mA at 24 V; approx. 3.5 W with Option /E2)**Operating temperature:** -5 to +60°C (23 to 140°F)**Operating humidity:** 30 to 90 %RH (non-condensing)**Mounting:** Surface or DIN rail**Weight:** 400 g (0.88 lb)**PERFORMANCE in percentage of span****Accuracy:**  $\pm 0.2$  %**Display accuracy:**  $\pm$  (0.2 % of FS + 1 digit)**Simple loop test output setting accuracy:**  $\pm 0.5$  %**Selecting sensitivity:** 0.5%**Temp. coefficient:**  $\pm 0.015$  %/°C ( $\pm 0.008$  %/°F)**Response time:**  $\leq 0.5$  sec. (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)

## EXTERNAL VIEW

### OPTION /E2

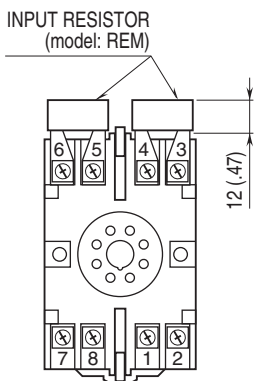


## EXTERNAL DIMENSIONS unit: mm (inch)



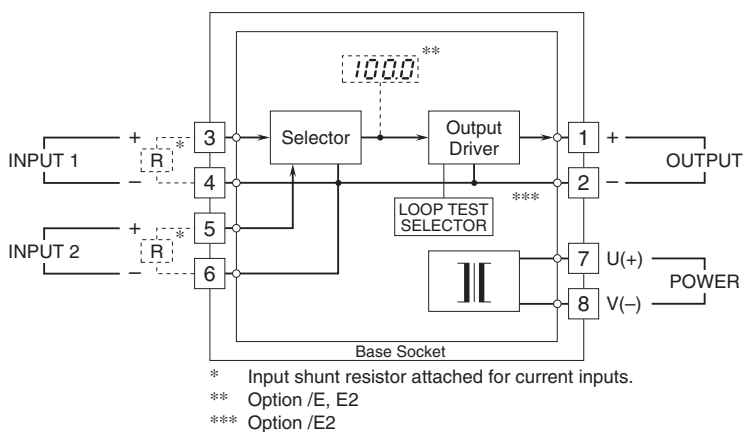
• When mounting, no extra space is needed between units.

## TERMINAL ASSIGNMENTS unit: mm (inch)



Input shunt resistor attached for current input.

**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



Specifications are subject to change without notice.