

## Plug-in Signal Conditioners M-UNIT

### HIGH/LOW SELECTOR

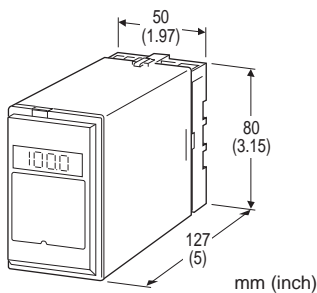
(non-isolated)

#### 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)

##### Input Signal Indicator (after selection)

- blank: Without
- /E: With LCD meter (0.0 - 100.0 %)
- /E2: With LCD display 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**Display scaling:** -10000 - +10000; ex-factory set to 0.00 - 100.00 (%)**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**Simple loop test output:** 0 % and 100 % signal simulated by selecting the front switch positions.**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)

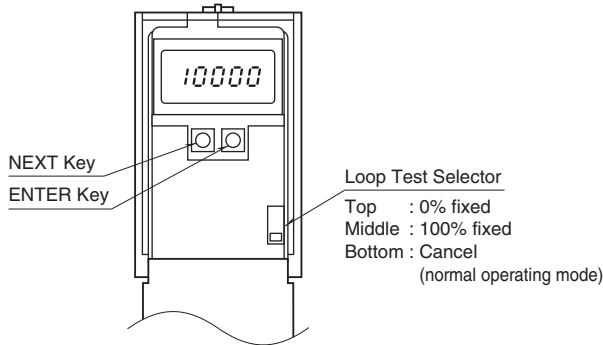
•**DC:** Operational voltage range: rating  $\pm$ 10 %, or 85 - 150 V for 110 V rating ripple 10 %p-p max.

approx. 2.5 W (110 mA at 24 V; approx. 3.5 W with Option /E2)

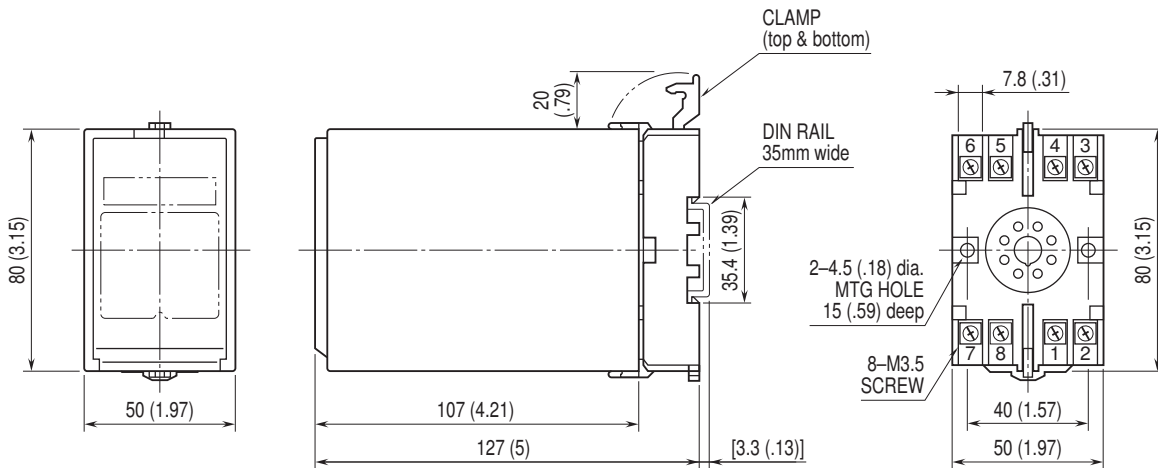
**Operating temperature:** -5 to +60°C (23 to 140°F)**Operating humidity:** 30 to 90 %RH (non-condensing)**Mounting:** Surface or DIN rail**Weight:** 400 g (0.88 lb)**PERFORMANCE in percentage of span****Accuracy:**  $\pm$ 0.2 %**Display accuracy:**  $\pm$  (0.2 % of FS + 1 digit)**Simple loop test output 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

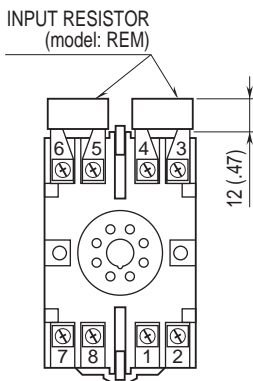


**DIMENSIONS unit: mm (inch)**



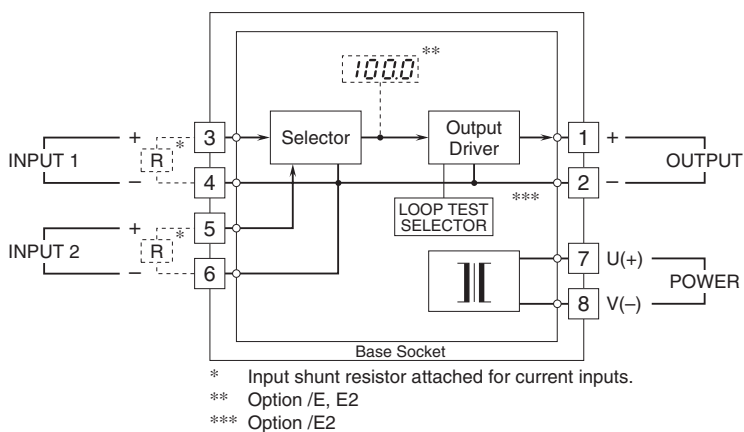
• When mounting, no extra space is needed between units.

**TERMINAL ASSIGNMENTS unit: mm (inch)**



Input shunt resistor attached for current input.

**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



Specifications are subject to change without notice.

