

## Plug-in Signal Conditioners M-UNIT

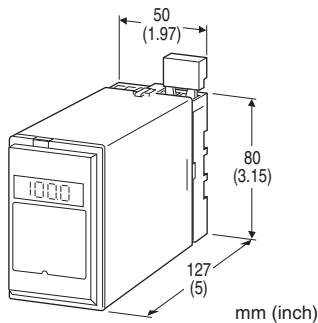
### CT TRANSMITTER

#### Functions & Features

- Converting an alternating current from a current transformer into a standard process signal
- Minimum ripple
- True RMS sensing
- CT Protector provided for open-circuit protection
- Isolation up to 2000 V AC
- LCD meter (engineering unit display selectable)
- Simple loop test output (0 % and 100 %)
- High-density mounting

#### Typical Applications

- Centralized monitoring and control of motors, pumps or heaters by DCS
- Monitoring power line and power supply current



### MODEL: CT-[1][2]-[3][4]

#### ORDERING INFORMATION

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

#### [1] INPUT

Current

- 1: 0 - 1 A AC
- 5: 0 - 5 A AC

#### [2] OUTPUT

Current

- A: 4 - 20 mA DC (Load resistance 750 Ω max.)
- B: 2 - 10 mA DC (Load resistance 1500 Ω max.)
- C: 1 - 5 mA DC (Load resistance 3000 Ω max.)

- D: 0 - 20 mA DC (Load resistance 750 Ω max.)
- E: 0 - 16 mA DC (Load resistance 900 Ω max.)
- F: 0 - 10 mA DC (Load resistance 1500 Ω max.)
- G: 0 - 1 mA DC (Load resistance 15 kΩ max.)
- Z: Specify current (See OUTPUT SPECIFICATIONS)

Voltage

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

#### [3] 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)

#### [4] OPTIONS (multiple selections)

Input Signal Indicator

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 our 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 to output to power  
**Input waveform:** Up to 15 % of 3rd harmonic content  
**Overrange output:** 0 to 120 % at 1 - 5 V  
**Zero adjustment:** -5 to +5 % (front)  
**Span adjustment:** 95 to 105 % (front)  
**Simple loop test output:** 0 % and 100 % signal simulated by selecting the front switch positions. (Only for option code /E2)  
**■ DISPLAY (Input indicator)**  
 • **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: %

(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 W (80 mA at 24 V; approx. 3 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:** 350 g (0.77 lb)

**PERFORMANCE in percentage of span**

**Accuracy:**  $\pm 0.3$  %  
**Display accuracy:**  $\pm (0.3 \text{ % of FS} + 1 \text{ digit})$   
**Simple loop test output setting accuracy:**  $\pm 0.5$  %  
**Temp. coefficient:**  $\pm 0.015 \text{ %/}^\circ\text{C}$  ( $\pm 0.008 \text{ %/}^\circ\text{F}$ )  
**Response time:**  $\leq 0.5$  sec. (0 - 90 %)  
**Ripple:** 0.5 %p-p max.  
**Line voltage effect:**  $\pm 0.1$  % over voltage range  
**Insulation resistance:**  $\geq 100 \text{ M}\Omega$  with 500 V DC  
**Dielectric strength:** 2000 V AC @1 minute (input to output to power to ground)

**INPUT SPECIFICATIONS**

**Frequency:** 50 or 60 Hz  
**Input burden:**  
 $\leq 0.1 \text{ VA}$  (input 0 - 1 A)  
 $\leq 0.5 \text{ VA}$  (input 0 - 5 A)  
**Overload capacity:** 500 % of rating for 5 sec., 120 % continuous  
**Operational range:** 0 - 120 % of rating

**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  $\geq 0.5 \text{ V}$

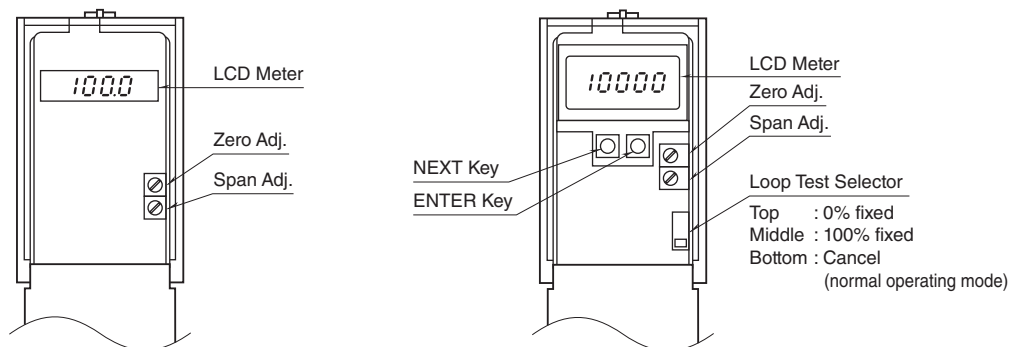
**INSTALLATION**

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

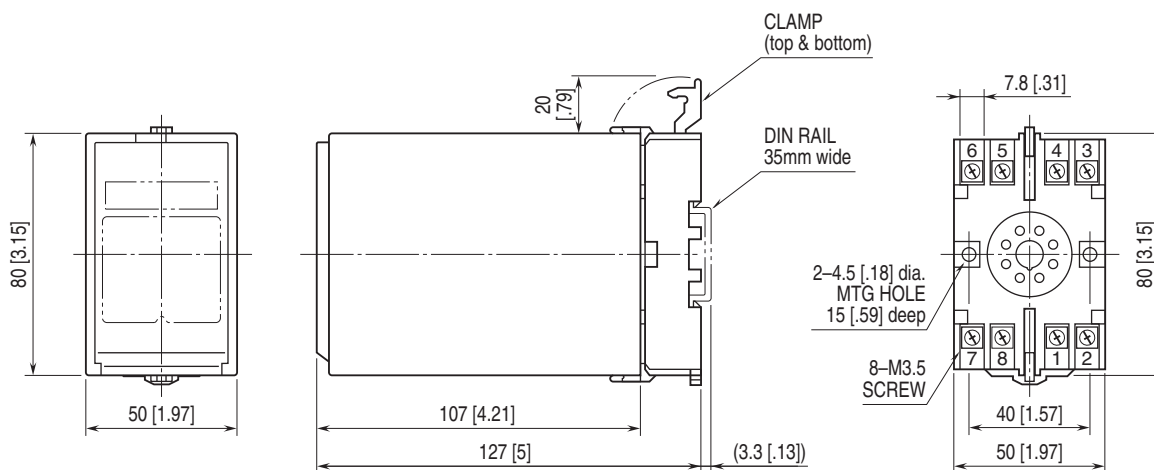
## EXTERNAL VIEW

■ OPTION /E

■ OPTION /E2

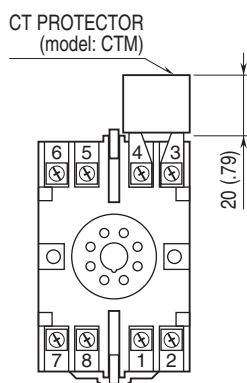


## EXTERNAL DIMENSIONS unit: mm [inch]

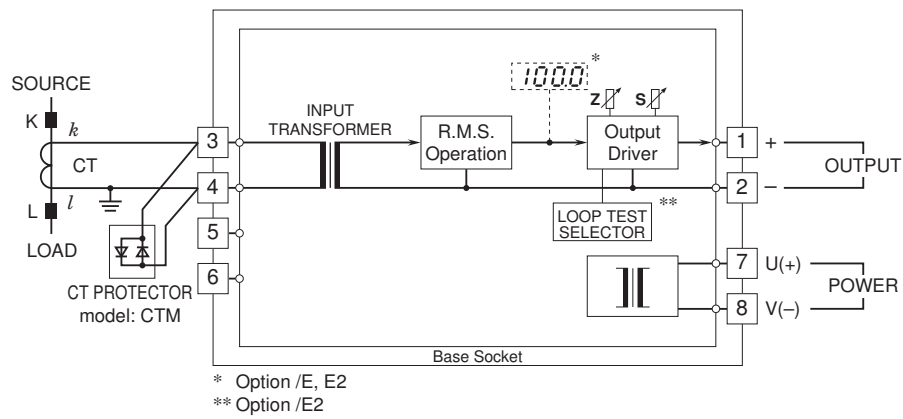


• When mounting, no extra space is needed between units.

## TERMINAL ASSIGNMENTS unit: mm [inch]



**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



Specifications are subject to change without notice.