

**Plug-in Signal Conditioners M-UNIT**

**PT TRANSMITTER**

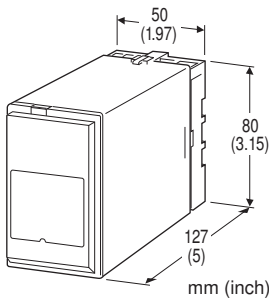
(high speed response)

**Functions & Features**

- Converting an alternating voltage from a potential (voltage) transformer into a standard process signal
- Minimum ripple
- Average sensing
- Isolation up to 2000 V AC
- High-density mounting

**Typical Applications**

- Monitoring & control of power supply system
- Quick countermeasure applicable even in failure or in sudden voltage change



**MODEL: PTAF-[1][2][3]-[4][5]**

**ORDERING INFORMATION**

- Code number: PTAF-[1][2][3]-[4][5]
- Specify a code from below for each [1] through [5]. (e.g. PTAF-51A-B/Q)
- Special output range (For codes Z & 0)
- Specify the specification for option code /Q (e.g. /C01/S01)

**[1] INPUT (sinusoidal waveform)**

**Voltage**

- 1: 0 - 110 V AC (used within 11 - 110 V)
- 2: 0 - 220 V AC (used within 22 - 220 V)
- 5: 0 - 150 V AC (used within 15 - 150 V)
- 6: 0 - 300 V AC (used within 30 - 300 V)

**[2] FREQUENCY**

- 1: 50 Hz
- 2: 60 Hz

**[3] OUTPUT**

**Current**

- A: 4 - 20 mA DC (Load resistance 600 Ω max.)
- B: 2 - 10 mA DC (Load resistance 1200 Ω max.)
- C: 1 - 5 mA DC (Load resistance 2400 Ω max.)
- D: 0 - 20 mA DC (Load resistance 600 Ω max.)
- E: 0 - 16 mA DC (Load resistance 750 Ω max.)
- F: 0 - 10 mA DC (Load resistance 1200 Ω max.)
- G: 0 - 1 mA DC (Load resistance 12 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 1000 Ω min.)
- 4: 0 - 10 V DC (Load resistance 10 kΩ min.)
- 5: 0 - 5 V DC (Load resistance 5000 Ω min.)
- 6: 1 - 5 V DC (Load resistance 5000 Ω min.)
- 4W: -10 - +10 V DC (Load resistance 10 kΩ min.)
- 5W: -5 - +5 V DC (Load resistance 5000 Ω 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

**[5] 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 to output to power  
**Input waveform:** Sine wave  
**Overrange output:** 10 to +120 % at 1 - 5 V  
**Zero adjustment:** -5 to +5 % (front)  
**Span adjustment:** 95 to 105 % (front)

## PERFORMANCE in percentage of span

**Accuracy:**  $\pm 1.0$  %  
**Temp. coefficient:**  $\pm 0.1$  %/°C ( $\pm 0.06$  %/°F)  
**Response time:** Approx. 50 msec. (0 - 90 %)  
**Ripple:** 1 %p-p max.  
**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 to output to power to ground)

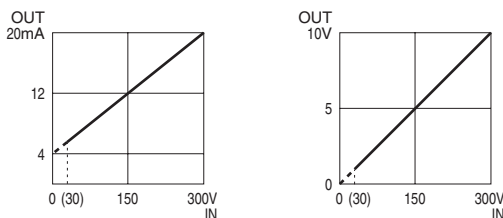
## INPUT SPECIFICATIONS

**Frequency:** Rating  $\pm 2$  Hz  
**Input burden:** 1 VA maximum  
**Overload capacity:** 200 % of rating for 1 minute, 120 % continuous  
**Operational range:** 10 - 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 12 V max.  
**DC Voltage:** -10 - +12 V DC  
**Minimum span:** 5 mV  
**Offset:** Max. 1.5 times span  
**Load resistance:** Output drive 1 mA max. at  $\geq 0.5$  V

### OPERATION DIAGRAM (example)



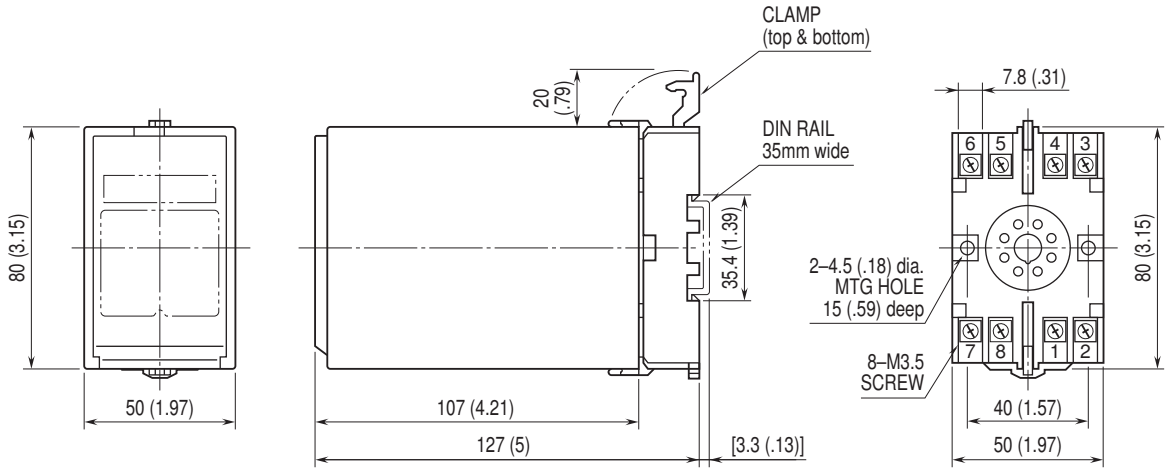
Note: The described accuracy is not assured within 0 - 10% of rated voltage (0 - 30V), though output signal exists.

## INSTALLATION

**Power input**  
 •AC: Operational voltage range: rating  $\pm 10$  %, 50/60  $\pm 2$  Hz, approx. 2 VA  
**Operating temperature:** -5 to +60°C (23 to 140°F)  
**Operating humidity:** 30 to 90 %RH (non-condensing)  
**Mounting:** Surface or DIN rail  
**Weight:** 450 g (0.99 lb)

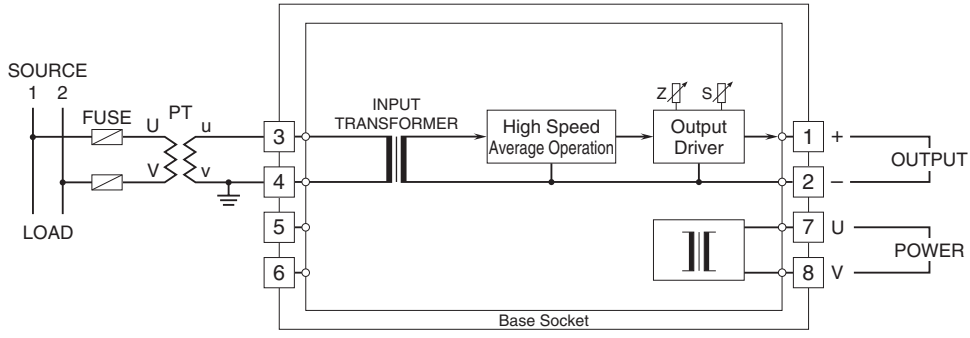



**EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)**



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

**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**



 Specifications are subject to change without notice.

