

Plug-in Signal Conditioners M-UNIT

POTENTIOMETER TRANSMITTER

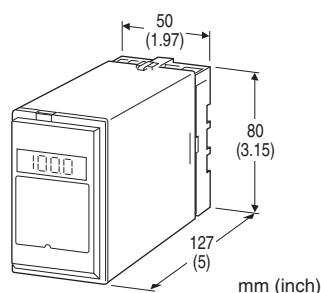
(isolated)

Functions & Features

- Providing a DC output proportional to a potentiometer or slidewire position input
- Constant voltage excitation allows use with pots with total resistances from 100 Ω - 10 k Ω without affecting accuracy
- 50 % zero/span adjustments with minimal interaction
- Isolation up to 2000 V AC
- Fast response type available
- LCD meter
- High-density mounting

Typical Applications

- Tank levels
- Positions



MODEL: PMS-[1]-[2][3]

ORDERING INFORMATION

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

INPUT POTENTIOMETER

Total resistance 100 Ω - 10 k Ω

[1] 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 k Ω max.)

Z: Specify current (See OUTPUT SPECIFICATIONS)

Voltage

- 1: 0 - 10 mV DC (Load resistance 10 k Ω min.)
- 2: 0 - 100 mV DC (Load resistance 100 k Ω 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)

[2] POWER INPUT

AC Power

- B: 100 V AC
- C: 110 V AC
- D: 115 V AC
- F: 120 V AC
- G: 200 V AC (Not selectable with Option /UL)
- H: 220 V AC (Not selectable with Option /UL)
- J: 240 V AC (Not selectable with Option /UL)

DC Power

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

[3] OPTIONS (multiple selections)

Input Signal Indicator

blank: Without

/E: With (0.0 - 100.0 % display)

Response Time (0 - 90 %)

blank: Standard (≤ 0.5 sec.)

/K: Fast Response (Approx. 25 msec.)

Standards & Approvals

blank: Without UL

/UL: UL approval (Not selectable with /E)

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 (UL not available)

TERMINAL SCREW MATERIAL

/S01: Stainless steel (UL not available)

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
Zero adjustment: 0 - 50 % of total resistance (front)
Span adjustment: 50 - 100 % of total resistance (front)
■ DISPLAY (Input indicator)
LCD digital display: 0.0 - 100.0 % (min. digit 0.1 %)
 (No scaling)

STANDARDS & APPROVALS

Approval:
 UL/C-UL general safety requirements
 (UL 3111-1, CAN/CSA-C22.2 No.1010-1)

INPUT SPECIFICATIONS

Minimum span: 50 % of total resistance
Excitation: 0.5 V DC

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 ≥ 0.5 V

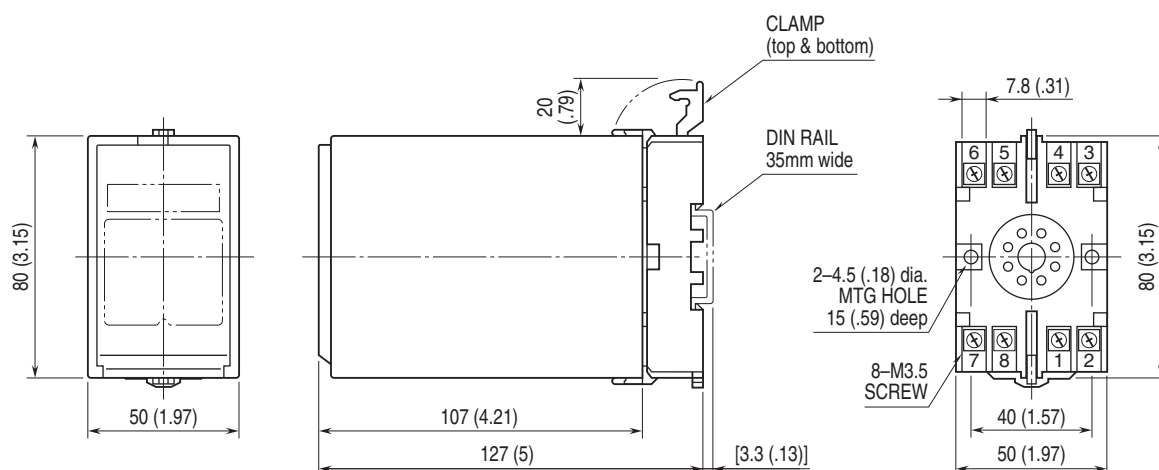
INSTALLATION

Power input
 • **AC:** Operational voltage range: rating ± 10 %, 50/60 ± 2 Hz, approx. 2 VA
 • **DC:** Operational voltage range: rating ± 10 %, or 85 - 150 V for 110 V rating (ripple 10 % p-p max.) approx. 2 W (80 mA at 24 V)
Operating temperature: -5 to +60°C (23 to 140°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: Surface or DIN rail
Weight: 300 g (0.66 lb)

PERFORMANCE in percentage of span

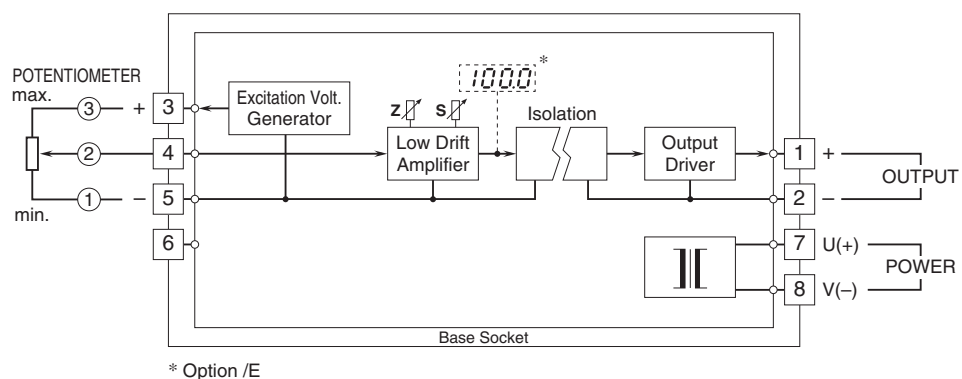
Accuracy: ± 0.1 %
Display accuracy: $\pm (0.1 \text{ % of FS} + 1 \text{ digit})$
Temp. coefficient: $\pm 0.015 \text{ %/}^\circ\text{C}$ ($\pm 0.008 \text{ %/}^\circ\text{F}$)
Line voltage effect: ± 0.1 % over voltage range
Insulation resistance: $\geq 100 \text{ M}\Omega$ with 500 V DC
Dielectric strength: 2000 V AC @1 minute (input to output to power to ground)

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



* Option /E



Specifications are subject to change without notice.