

Plug-in Signal Conditioners M-UNIT

PEAK HOLD

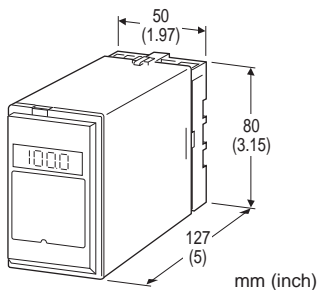
(3-port isolation)

Functions & Features

- Track mode: the output follows proportionally to the input
- Peak-hold mode: responds only to an increasing signal, holding the maximum value until a higher signal or a command to reset is received
- Minimum value (valley) hold selectable
- LCD meter
- High-density mounting

Typical Applications

- Monitoring peak power consumption
- Monitoring the highest or lowest temperature



MODEL: PHS[1]-[2][3]-[4][5]

ORDERING INFORMATION

- Code number: PHS[1]-[2][3]-[4][5]
- Specify a code from below for each [1] through [5].
(e.g. PHS-6A-B/E)
- Special input and output ranges (For codes Z & 0)
 - Specify the specification for option code /Q (e.g. /C01/S01)

[1] HOLD FUNCTION

- H: Peak hold
L: Valley hold

[2] INPUT

Current

- A: 4 - 20 mA DC (Input resistance 250 Ω)
A1: 4 - 20 mA DC (Input resistance 50 Ω)
 B: 2 - 10 mA DC (Input resistance 500 Ω)
 C: 1 - 5 mA DC (Input resistance 1000 Ω)
 D: 0 - 20 mA DC (Input resistance 50 Ω)
 E: 0 - 16 mA DC (Input resistance 62.5 Ω)
 F: 0 - 10 mA DC (Input resistance 100 Ω)
 G: 0 - 1 mA DC (Input resistance 1000 Ω)

- H: 10 - 50 mA DC (Input resistance 100 Ω)
 J: 0 - 10 μA DC (Input resistance 1000 Ω)
 K: 0 - 100 μA DC (Input resistance 1000 Ω)
GW: -1 - +1 mA DC (Input resistance 1000 Ω)
FW: -10 - +10 mA DC (Input resistance 100 Ω)
 Z: Specify current (See INPUT SPECIFICATIONS)

Voltage

- 1: 0 - 10 mV DC (Input resistance 10 kΩ min.)
15: 0 - 50 mV DC (Input resistance 10 kΩ min.)
16: 0 - 60 mV DC (Input resistance 10 kΩ min.)
 2: 0 - 100 mV DC (Input resistance 100 kΩ min.)
 3: 0 - 1 V DC (Input resistance 1 MΩ min.)
 4: 0 - 10 V DC (Input resistance 1 MΩ min.)
 5: 0 - 5 V DC (Input resistance 1 MΩ min.)
 6: 1 - 5 V DC (Input resistance 1 MΩ min.)
4W: -10 - +10 V DC (Input resistance 1 MΩ min.)
5W: -5 - +5 V DC (Input resistance 1 MΩ min.)
 0: Specify voltage (See INPUT SPECIFICATIONS)

[3] 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)

[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

≥ 20 kΩ / 4 V at Hold

[5] OPTIONS (multiple selections)

Input Signal Indicator

blank: Without

/E: With (0.0 - 100.0 % display)

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 to output to power

Overrange output: Approx. -10 to +120 % at 1 - 5 V

Zero adjustment: -5 to +5 % (front)

Span adjustment: 95 to 105 % (front)

Hold control: Holds when opening the terminals 5 - 6; tracks when closing them

LCD meter: Indicating track or hold values according to the operating mode; 0.1 % increments

INPUT SPECIFICATIONS

DC Current:

Shunt resistor attached to the input terminals (0.5 W)

Specify input resistance value for code Z.

DC Voltage: -300 - +300 V DC

Minimum span: 3 mV

Offset: Max. 1.5 times span

Input resistance

Span 3 - 10 mV : ≥ 10 kΩ

Span 10 - 100 mV : ≥ 10 kΩ

Span 0.1 - 1 V : ≥ 100 kΩ

Span ≥ 1 V : ≥ 1 MΩ

HOLD CONTROL

Contact rating: 5 V @1 mA

Detection levels: ≤ 1.25 kΩ / 1 V at Track

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 (90 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: 400 g (0.88 lb)

PERFORMANCE in percentage of span

Accuracy: ±0.2 %

Temp. coefficient: ±0.015 %/°C (±0.008 %/°F)

Response time: ≤ 0.5 sec. (0 - 90 %)

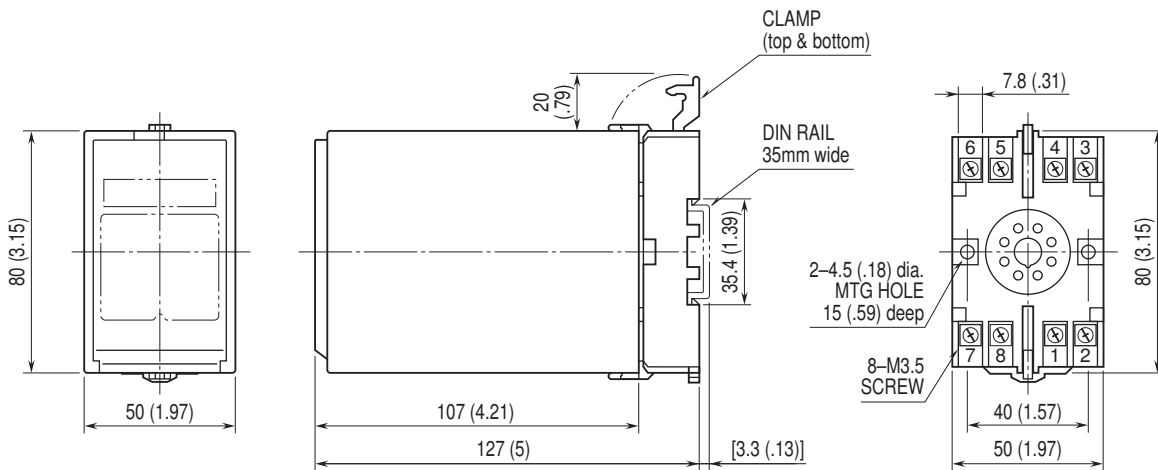
Line voltage effect: ±0.1 % over voltage range

Insulation resistance: ≥ 100 MΩ with 500 V DC

Dielectric strength: 2000 V AC @1 minute (input to output to power to ground)

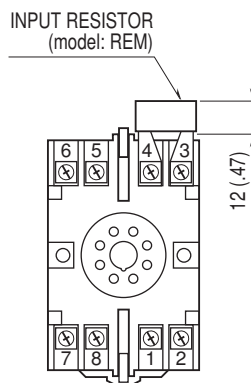


DIMENSIONS unit: mm (inch)



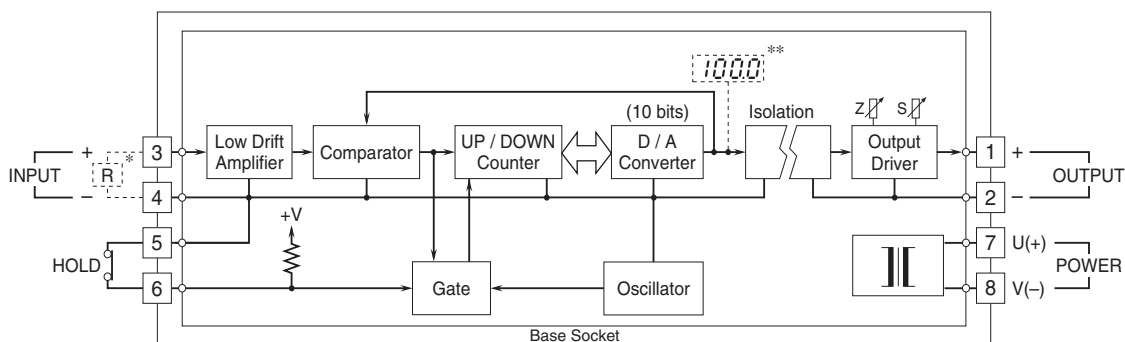
• When mounting, no extra space is needed between units.

TERMINAL ASSIGNMENTS unit: mm (inch)



Input shunt resistor attached for current input.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



* Input shunt resistor attached for current input.

** Option /E



Specifications are subject to change without notice.