Plug-in Signal Conditioners M-UNIT

PT TRANSMITTER

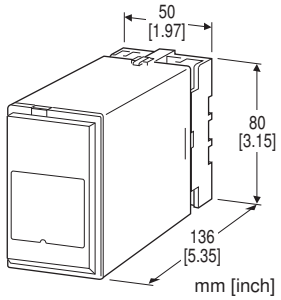
(true RMS sensing; high speed response; peak hold)

Functions & Features

• Converts an alternating voltage from a voltage transformer into a standard process signal
• Dual output: The second output can be switched to 'peak hold' mode with the front DIP switch
• Resetting the peak hold output with the front reset control button
• True RMS sensing with fast 50-millisecond response time (0 – 90 %) is possible
• Isolation up to 2000 V AC

Typical Applications

• Monitoring impulsive power line voltage change



CE

MODEL: PTPH–[1][2][3]-[4][5]

ORDERING INFORMATION

• Code number: PTPH-[1][2][3]-[4][5]
Specify a code from below for each of [1] through [5].
(e.g. PTPH-5AA-M2/CE/Q)
• Specify the specification for option code /Q
(e.g. /C01/S01)

[1] INPUT

Voltage
1: 0 – 110 V AC
2: 0 – 220 V AC
5: 0 – 150 V AC
6: 0 - 300 V AC
8: 0 – 259 V AC

[2] OUTPUT 1

Current
A: 4 – 20 mA DC (Load resistance 500 Ω max.)
G: 0 – 1 mA DC (Load resistance 10 kΩ max.)
Voltage
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.)

[3] OUTPUT 2 (momentary value or peak hold)

Current
A: 4 – 20 mA DC (Load resistance 350 Ω max.)
G: 0 – 1 mA DC (Load resistance 7000 Ω max.)
Voltage
Same range availability as Output 1

[4] POWER INPUT

AC Power
M2: 100 – 240 V AC (Operational voltage range 85 – 264 V, 47 – 66 Hz)
DC Power
R: 24 V DC
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)
(CE not available)
P: 110 V DC
(Operational voltage range 85 – 150 V, ripple 10 %p-p max.)
(CE not available)

[5] OPTIONS (multiple selections)

Standards & Approvals
blank: Without CE
/CE: CE marking
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 1 to output 2 to contact input to power
Input waveform: Up to 20 % of 3rd harmonic content
Overrange output: 0 to 120 % at 1 – 5 V
Zero adjustment: -5 to +5 % (front)

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Span adjustment: 95 to 105 % (front)
Adjustable individually for each output 1 and output 2.
Indicator LED: Red LED blinks in 800 millisecond intervals when the power is supplied; blinks in 200 millisecond intervals when the peak hold output is reset.
Function setting: DIP switch
• Output 2 Function (Momentary value output/Peak hold value output)
• Line Frequency
• Response Time
Reset control: Used to reset the peak hold output.
Momentary value is output immediately after the resetting.

INPUT SPECIFICATIONS

■ VOLTAGE INPUT
Frequency: 50 or 60 Hz
Input burden: ≤ 0.5 VA
Overload capacity: 200 % of rating for 1 minute, 120 % continuous
Operational range: 0 – 120 % of rating
■ **Contact Input**: Used to reset the peak hold output.
Momentary value is output immediately after the resetting.
Detecting voltage/current: 15 V DC / approx. 2.5 mA
Detection levels: ≤ 5 kΩ, ≤ 6 V for ON;
≥ 100 kΩ, ≥ 14 V for OFF

INSTALLATION

Power Consumption
•**AC**:
Approx. 5 VA at 100 V
Approx. 6 VA at 200 V
Approx. 7 VA at 240 V
•**DC**: Approx. 3 W
Operating temperature: -5 to +60°C (23 to 140°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: Surface or DIN rail
Weight: 210 g (0.46 lb)

PERFORMANCE in percentage of span

Accuracy: ±0.5 %
Temp. coefficient: ±0.03 %/°C (±0.02 %/°F)
Response time: ≤ 50/100/200/500 msec. (0 – 90 %)
Peak hold reset time: 20 msec.
Ripple: 0.5 %p-p max.
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 1 or output 2 or contact input to power to ground)
500 V AC @ 1 minute (output 1 to output 2 to contact input)
Impulse withstand voltage: 1.2/50 µsec., ±5 kV (input to output 1 or output 2 or contact input or ground)

STANDARDS & APPROVALS

EU conformity:
EMC Directive
EMI EN 61000-6-4
EMS EN 61000-6-2
Low Voltage Directive
EN 61010-1
Measurement Category II (input)
Installation Category II (power)
Pollution Degree 2
Contact input or output to power: Reinforced insulation (300 V)
Input to output: Reinforced insulation (300 V)
Input to contact input or power: Basic insulation (300 V)
RoHS Directive

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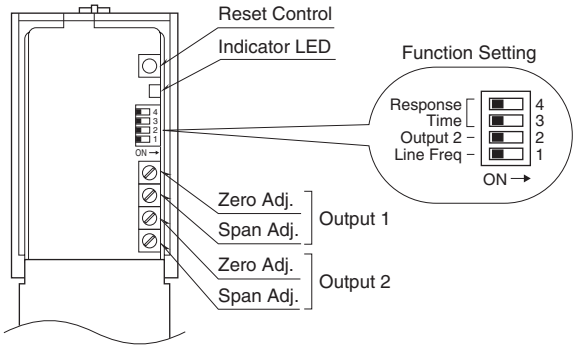
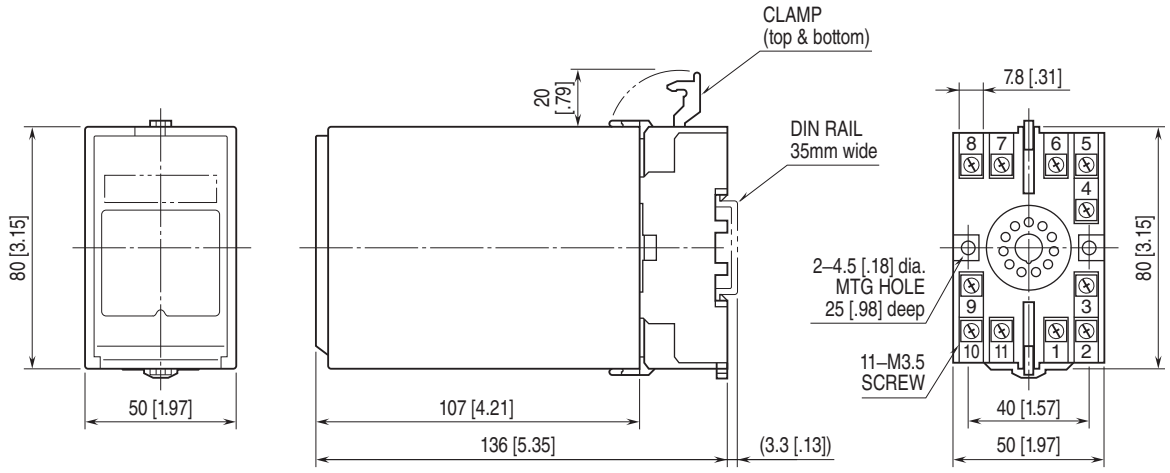
EXTERNAL VIEW

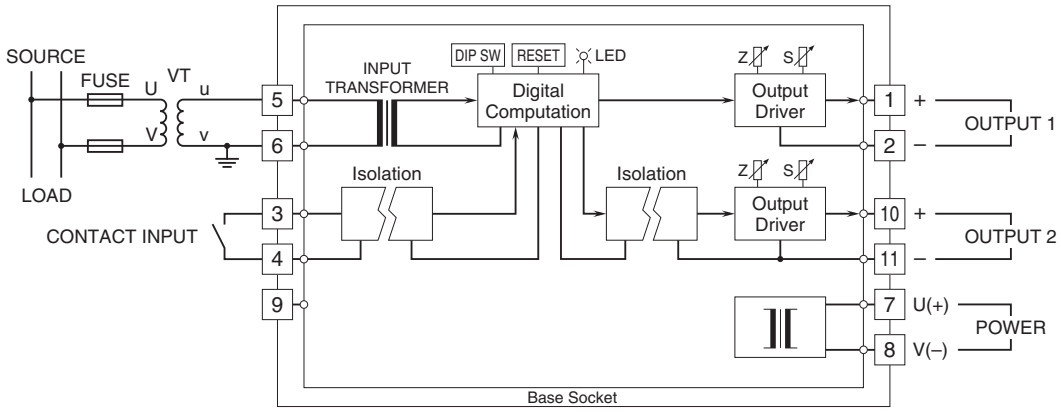


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



⚠ Specifications are subject to change without notice.

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