

**Space-saving Dual Output Signal Conditioners  
Mini-MW Series**

**PT TRANSMITTER**

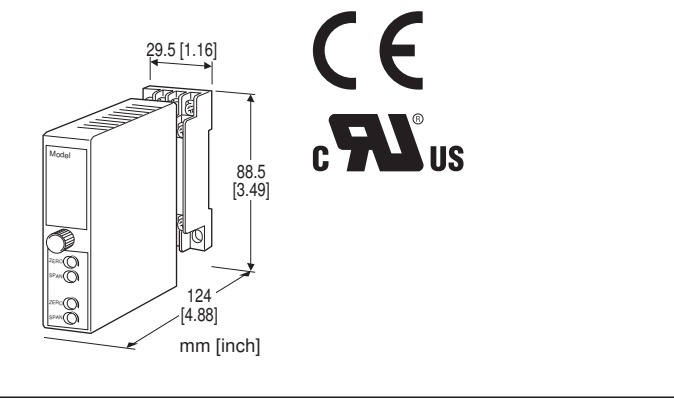
(RMS sensing)

**Functions & Features**

- Converts an alternating voltage input from a potential (voltage) transformer
- Minimum ripple
- RMS sensing
- Two independent output ranges

**Typical Applications**

- Centralized monitoring and control of power line and power supply voltage measured at switch boards
- Monitoring abnormal voltage drops for detecting overload



**MODEL: W2PE-[1][2][3]-[4][5]**

**ORDERING INFORMATION**

- Code number: W2PE-[1][2][3]-[4][5]

Specify a code from below for each of [1] through [5].

- (e.g. W2PE-1AA-M2/CE/Q)
- Special output range (For codes Z & 0)
- Specify the specification for option code /Q (e.g. /C01/S01)

Note: When the user requires a current and a voltage output, specify the current to be the Output 1 which allows a greater load.

**[1] INPUT**

Voltage

- 1:** 0 - 110 V AC
- 5:** 0 - 150 V AC

**[2] OUTPUT 1**

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 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)

**[3] OUTPUT 2**

Y: None

Current

- A:** 4 - 20 mA DC (Load resistance 350 Ω max.)
- B:** 2 - 10 mA DC (Load resistance 700 Ω max.)
- C:** 1 - 5 mA DC (Load resistance 1400 Ω max.)
- D:** 0 - 20 mA DC (Load resistance 350 Ω max.)
- E:** 0 - 16 mA DC (Load resistance 430 Ω max.)
- F:** 0 - 10 mA DC (Load resistance 700 Ω max.)
- G:** 0 - 1 mA DC (Load resistance 7000 Ω max.)
- Z:** Specify current (See OUTPUT SPECIFICATIONS)

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)
- (90 - 264 V for UL)

DC Power

- R:** 24 V DC (Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)
- R2:** 11 - 27 V DC (Operational voltage range 11 - 27 V, ripple 10 %p-p max.) (Select '/N' for 'Standards & Approvals' code.)
- P:** 110 V DC (Operational voltage range 85 - 150 V, ripple 10 %p-p max.) (110 V ±10 % for UL)

**[5] OPTIONS (multiple selections)**

Standards &amp; Approvals (must be specified)

**/N:** Without CE or UL**/CE:** CE marking**/UL:** UL approval, 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 (UL not available)

TERMINAL SCREW MATERIAL

**/S01:** Stainless steel (UL not available)**GENERAL SPECIFICATIONS****Construction:** Plug-in**Connection:** M3 screw terminals (torque 0.8 N·m)**Screw terminal:** Chromated steel (standard) or stainless steel**Housing material:** Flame-resistant resin (black)**Isolation:** Input to output 1 to output 2 to power**Input waveform****RMS sensing:** 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)

Adjustable individually for each output 1 and output 2.

**INPUT SPECIFICATIONS****Frequency:** 50 or 60 Hz**Input burden:** 0.5 VA max.**Overload capacity:** 200 % of rating for 1 minute, 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. for Output 1;

7 V max. for Output 2

**■ DC Voltage:** -10 - +12 V DC (up to 10 V for Output 2)**Minimum span:** 5 mV**Offset:** Max. 1.5 times span**Load resistance:** Output drive 1 mA max.; at  $\geq 0.5$  V**INSTALLATION****Power Consumption****•AC:**

Approx. 4 VA at 100 V

Approx. 5 VA at 200 V

Approx. 6 VA at 240 V

**•DC:** Approx. 3 W**Operating temperature:** -5 to +55°C (23 to 131°F)**Operating humidity:** 30 to 90 %RH (non-condensing)**Mounting:** Surface or DIN rail**Weight:** 200 g (0.44 lb)**PERFORMANCE in percentage of span****Accuracy:**  $\pm 0.4$  %**Temp. coefficient:**  $\pm 0.02$  %/°C ( $\pm 0.01$  %/°F)**Response time:**  $\leq 0.5$  sec. (0 - 90 %)**Ripple:** 0.5 %p-p max. (100/120 Hz)**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 1 to output 2 to power to 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

Input or output 1 or output 2 to power input:

Reinforced insulation (300 V)

Input to output 1 to output 2: Basic insulation (300 V)

RoHS Directive

**Approval:**

UL/C-UL nonincendive Class I, Division 2,

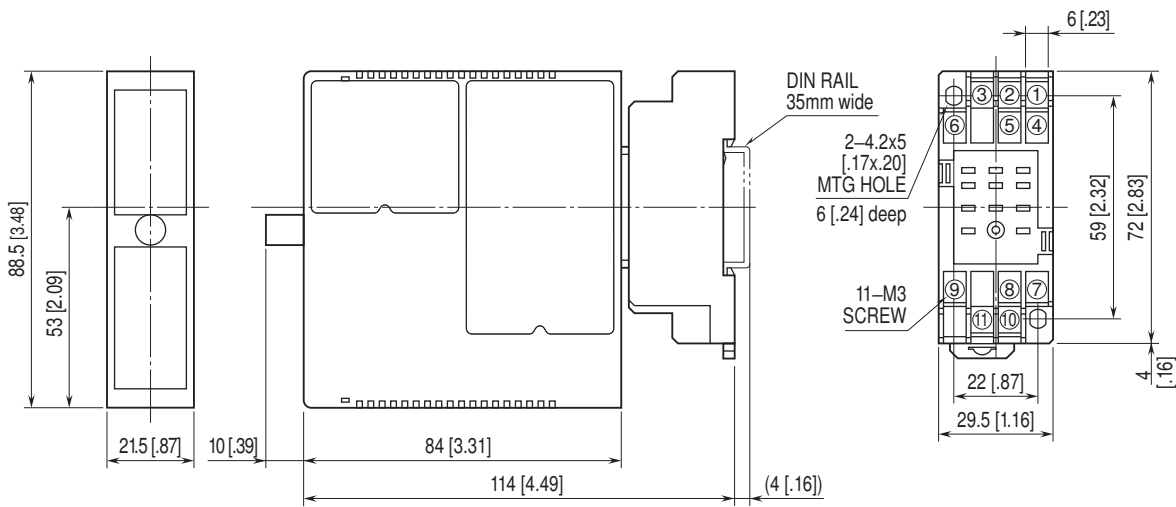
Groups A, B, C, and D

(ANSI/ISA-12.12.01, CAN/CSA-C22.2 No.213)

UL/C-UL general safety requirements

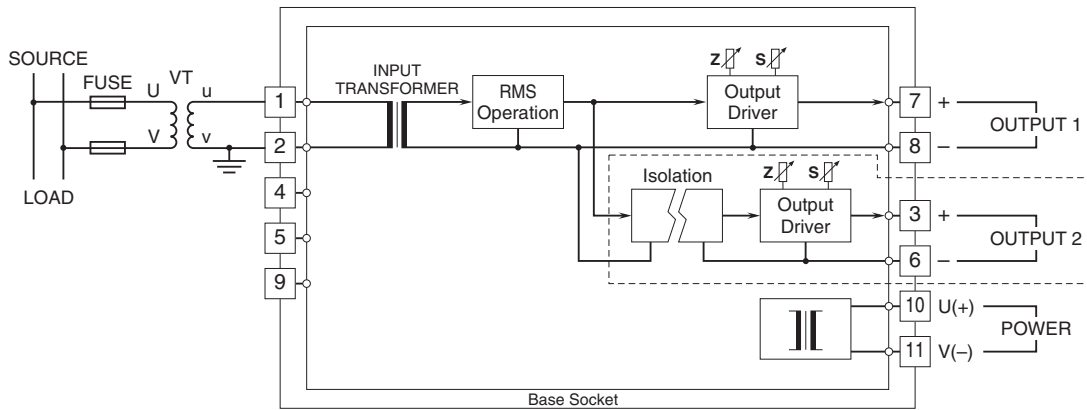
(UL 61010-1, CAN/CSA-C22.2 No.61010-1)

## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



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

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Note: The section enclosed by broken line is only with 2nd output option.



Specifications are subject to change without notice.