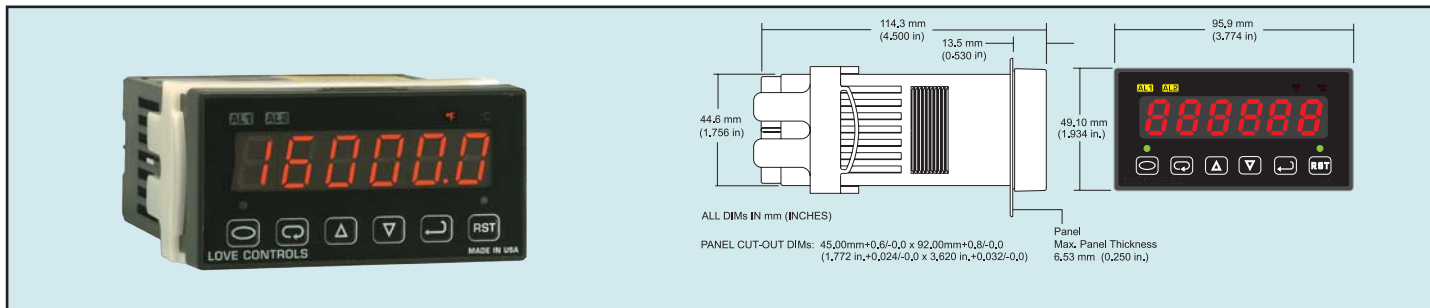




Series  
PP45

# Temperature/Process Indicator

Universal Input, 0.1% Accuracy, 6 Digit Display



The Love PP45 Series Temperature/Process Indicators offer a high level of standard features in an economical 1/8 DIN package. Featuring universal input for thermocouples, RTDs, differential input, and process input; the PP45 Series offers easy setup for most temperature and process applications. A standard 24 Volt isolated, regulated power supply is included to power most standard 4 to 20 mA transmitters.

Standard features include peak and valley indication and one button tare setting. For process inputs the display is fully programmable from -32000 to +32000 with user placeable decimal point. Most thermocouple and RTD inputs can show whole or tenth degree display. The PP45 Series is available with dual alarm SPDT outputs rated at a full 10 Amps, and can be programmed for high, low, or guardband (high/low) operation. All outputs are isolated from the input. Other options include Analog Retransmission of the Process Variable and Digital Serial Communication for either RS-232 or RS-485.

The PP45 sets a new standard in quality, features, ease of use, and value. While having a high level of features and functions, program items only appear in the control menu when the function is selected.

For the best value in a high accuracy 1/8 DIN panel meter, the choice is the Love Controls PP45 Series.

## INPUT RANGES

INPUT TYPE	RANGE °F	RANGE °C
Type J or L Thermocouple	-100 to +1607	-73 to +871
Type K Thermocouple	-200 to +2500	-129 to +1371
Type T Thermocouple	-350 to +750	-212 to +398
Type E Thermocouple	-100 to +1800	-73 to +982
Type R Thermocouple	0 to 3200	-17 to +1760
Type S Thermocouple	0 to 3200	-17 to +1760
Type B Thermocouple	+75 to +3308	+24 to +1820
Type C Thermocouple	0 to 4208	-17 to +2320
Type N Thermocouple	-100 to +2372	-73 to +1300
100 Ω PIt. 0.00385 DIN RTD	-328 to 1607	-200 to +875
100 Ω PIt. 0.00392 NIST RTD	-328 to 1607	-200 to +875
120 Ω Nickel 0.00628 US RTD	-112 to +608	-80 to +320
1000 Ω PIt. 0.00385 DIN RTD	-328 to +1607	-200 to +875
Current/Voltage/ Δ Voltage	Scalable Units from -1999 to +9999	

**NEMA 4 (IP-65) Mounting Enclosure** for 1/8 DIN controls and panel meters.

The **1007-ENCL8, IP-65 (NEMA 4) Mounting Enclosure** for 1/8 DIN controls and panel meters, allows easy use in a compact semi-portable format. The enclosure has a standard 1/8 DIN cut-out and will accommodate a PP45, LCI108, LCI108J, LCI208, LCI308, LCI408, 8500 Series, 8600 Series, LCU108, or LCU208 indicators and controls.



1007-ENCL8 shown with PP45 mounted.

Four rubber feet allow for secure positioning on most flat surfaces. The top easily removes with four screws to allow full access to the interior for wiring and installation.

## STOCKED MODELS

**1007-ENCL8**, Mounting Enclosure .....

## SPECIFICATIONS

### Input Characteristics:

- Thermocouple = 3 megohms minimum.
- Voltage = 5000 ohms.
- Current = 10 ohms.
- RTD current = 200 μA maximum.

**Display:** 6 digit, 7 segment 0.5" (12.7 mm) high.

**Alarm On-Off Differential:** 1° F, C, or 1 count.

**Accuracy:** ±0.1% of span ±1 least significant digit.

**Resolution:** 1° or 0.1°, or 1 count.

**Line Voltage Stability:** ±0.05% over supply range.

**Temperature Stability:** 100 ppm/°C typical, 200 ppm/°C max.

**Isolation:** Alarm Relay outputs, 1500 VAC from all inputs and outputs.

**Supply Voltage:** 100 to 240 VAC nominal, +10% -15%, 50 to 400 Hz single phase; 132 to 240 VDC +10% -20%.

**Power Consumption:** 5 VA maximum.

**Operating Temperature:** 14 to 131°F (-10 to 55°C).

**Storage Temperature:** -40 to 176°F (-40 to 80°C).

**Humidity Range:** 0 to 90% up to 104°F (40°C) non-condensing. 10 to 50% at 131°F (55°C) non-condensing.

**Memory Backup:** Non-volatile memory. Has no batteries.

**Alarm Output Relay Ratings:** SPDT, 10 A at 240 VAC resistive, 1/2 hp @ 120 VAC, 1/3 hp @ 240 VAC.

**Loop Power Supply:** Isolated 24 VDC @ 50 mA, regulated.

**Panel Cutout:** 3.625" x 1.775" (92 mm x 45 mm).

**Depth Behind Panel:** 4.0" (103 mm).

**Weight:** 13 oz (369 g).

**Front Panel Rating:** IP66 (Type 4X).

## STOCKED MODELS in bold

Part Number	Features
<b>PP450</b>	Indicator without Alarms
<b>PP451</b>	Indicator with Alarms
<b>PP450-932</b>	Indicator w/o Alarms and 0 (4) to 20 mA Retransmission
<b>PP451-932</b>	Indicator w/ Alarms and 0 (4) to 20 mA Retransmission
<b>PP450-996</b>	Indicator w/o Alarms & RS-485 Modbus® Communications
<b>PP451-996</b>	Indicator w/ Alarms & RS-485 Modbus® Communications

<sup>1</sup> The 0 to 20 mADC, 4 to 20 mADC, 0 to 10 VDC, 2 to 10 VDC, and -10 to +10 mVDC inputs are fully scalable from a minimum of 100 counts span placed anywhere within the range of -32000 to +32000. Decimal point position is adjustable from the zero place (32000), tenths (3200.0), hundredths (320.00), thousandths (32.000), or ten thousandths (3.2000).

**Accessory mounting bracket** for 1/8 DIN controls and panel meters.

The **1007-BRKT8 Accessory Mounting Bracket Kit** for 1/8 DIN controls and panel meters allows easy mounting of an accessory directly to the rear of the PP45, D8500, or D8600 Series instruments. The kit includes the bracket, terminal insulator barrier, and screws.

The 1007-BRKT8 is designed to hold a Series 668 pressure transmitter, but may also be used for other transmitters or solid state relays.



1007-BRKT8 shown mounted on PP45 with Love LCTPO pressure transmitter (wiring omitted).

## STOCKED MODELS

**1007-BRKT8**, Mounting Bracket Kit .....

**Note:** When mounting a solid state relay, make sure that the load is small enough so that additional heat sinking is not necessary. Do not use a solid state relay on this bracket if the weight is more than 4 oz (125 g) or if the heat generated by the solid state relay will raise the ambient temperature of the bracket by more than 9°F (5°C).