Panel Pro™ 45 Series 1/8 DIN Temperature / Process Indicator



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 percent output indication, peak and valley indication, and one button tare setting. For process inputs the display is fully programmable from -1999 to +9999 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 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 inputs. 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 the highest level features and functions, many setup 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.

STANDARD FEATURES

- IP66 (NEMA 4X) front panel
- 4-3/4 Digit Display
- 0.1% Full Scale Accuracy
- One Button Tare Setting
- Peak/Valley indication
- Regulated loop power supply for transmitters
- Optional 10 A Alarms

Inputs

INPUT TYPE	RANGE °F	RANGE °C
Type J or L[1] Thermocouple	-100 to +1607	-73 to +871
Type K[1] Thermocouple	-200 to +2500	-129 to +1371
Type T[1] Thermocouple	-350 to +750	-212 to +398
Type E[1] 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[1] Thermocouple	-100 to +2372	-73 to +1300
100 Ω Plt. 0.00385 DIN[1] RTD	-328 to 1607	-200 to +875
100 Ω Plt. 0.00392 Nist[1] RTD	-328 to 1607	-200 to +875
120 Ω Nickel 0.00628 US[1] RTD	-112 to +608	-80 to +320
1000 Ω Plt. 0.00385 DIN[1] RTD	-328 to +1607	-200 to +875
Current/Voltage/Δ Voltage[2]	Scalable Units from -1999 to +9999	

[1] These Input Types can be set for 0.1° display. If temperature goes above 999.9° or less than -199.9° the display will return to whole degree resolution.

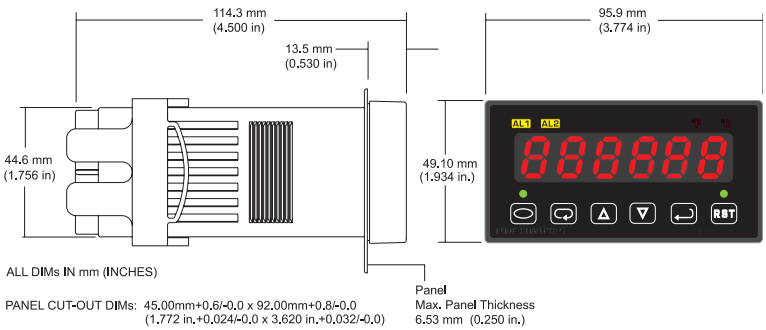
[2] The 0 to 20 mADC, 4 to 20 mADC, 0 to 10 VDC, 2 to 10 VDC, and -10 to +10 mVDC inputs are fully scalable from a minimum of 100 counts span placed anywhere within the within the range of -1999 to +9999. Decimal point position is adjustable from the zero place (9999), tenths (999.9), hundredths (99.99), thousandths (9.999), or ten thousandths (.9999).

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FRONT PANEL KEY FUNCTIONS



DIMENSIONS



MODEL IDENTIFICATION

To order, specify part number by filling the boxes with the appropriate numbers. If no options are desired, leave those boxes blank.

PP45 ☐ - ☐ **OPTIONS****

Alarm
0 = No
1 = Yes

****Options:**

932, 933 Process Retransmission. Provides a 0 to 10 VDC (933) or 0 to 20 mADC (932) (field scalable) to follow the process variable or the set variable (field selectable) over a user specified range.

996, 995 Serial Communications. Allows communication between control and remote host computer through a RS-485 (996) serial communication line with half duplex operation (2-wire) or through a RS-232 (995) serial communication line with full duplex operation (3 wire).

SPECIFICATIONS

Front Panel Selectable Inputs: Thermocouple, RTD, DC Voltage, or DC Current.
Input Impedance:
- Thermocouple = 3 megohms minimum.
- Voltage = 5000 ohms.
- Current = 10 ohms.
- RTD current = 200 µA maximum.

Display: One 6 digit, 7 segment 12.7 mm (0.5") high LED in horizontal orientation.
Alarm On-Off Differential: 1° F, C, or 1 count.
Scaling for Current and Voltage Inputs: Minimum of 100 counts placed anywhere between -1999 to +9999, maximum of -1999 to +9999. Scale low and scale high points are selected independently.
Accuracy: ±0.1% of span ±1 least significant digit.
Resolution: 1° or 0.1° (sensor dependant), 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.
Power Consumption: 5 VA maximum.
Supply Voltage: 100 to 240 VAC nominal, +10% -15%, 50 to 400 Hz single phase; 132 to 240 VDC +10% -20%.
Operating Temperature Range: -10 to 55°C (14 to 131°F).
Storage Temperature Range: -40 to 80°C (-40 to 176°F).
Humidity Range: 0 to 90% up to 40°C non-condensing. 10 to 50% at 55°C non-condensing.
Memory Backup: Non-volatile memory. Has no batteries.
Control Output Ratings:
Alarm Relay: 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: 92 mm x 45 mm (3.625" x 1.775").
Depth Behind Mounting Surface: 103 mm (4.0").
Weight: 369 g (13 oz.).
Agency Approvals: CE, UL E83725.
Front Panel Rating: IP66 (Type 4X).

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