The Series DPML-4 LCD Digital Panel Meter offers a large 4-1/2 digit LCD display with a choice of red, amber or green segments for easy viewing at a distance. The meter accepts loop powered 4-20 mA DC input. Standard features include field engineering units and decimal point positions. A separate 24 VDC power supply is required for the operation of the back light.

**SPECIFICATIONS**

- **Inputs:** 4 to 20 mA.
- **Input Impedance:** 300Ω nominal.
- **Accuracy:** ±(0.1% FS + 2 count).
- **Power Supply:** Powered by control loop.
- **Backlight Power Supply:** 24 VDC @ 35 mA typical.
- **Span and Zero:** Adjustable (±19999 counts).
- **Display:** 4-1/2 digits, 7 segments, 0.45˝ (11.4 mm) H.
- **Decimal Points:** 4-position, user selectable.
- **Engineering Units:** DPML-XXX: °F, °C, %, PSI; DPML-XXXP: V, A, KW, PF.
- **Polarity:** Automatic, “-” displayed.
- **Operating Temperature:** 32 to 122°F (0 to 50°C).
- **Storage Temperature:** -4 to 158°F (-20 to 70°C)
- **Mounting:** Snap-in bezel mount.
- **Connection:** Screw terminals.
- **Conversion Rate:** 3 per second.
- **Warm-Up:** 10 minutes typical.
- **Weight:** 2 oz (56.7 g).
- **Agency Approvals:** RoHS.

**OPERATION**

**Selecting Engineering Units**

Four sets of jumper pins are located in the back of the meter, between the meter and the adder board. Move the jumper to fit over the appropriate pins which correspond to the desired engineering unit. See Figure 2.

**INSTALLATION**

The Series DPML-4 is designed to snap into a 2.4” (61 mm) W x 1” (25.4 mm) H panel cutout. No additional hardware is required.

**WIRING**

The unit is powered by a 4-20 mA loop and the screw terminal for wiring is located on the back of the adder board marked with + SIG -. The backlighting requires a 24 VDC power supply and should be connected to terminals identified with + B/L -.

**Note:** If backlight supply is not loop supply, ground should be referenced together.

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**FIGURE 1**

4-20 mA + SIG - + 24 Vdc ±5%

**FIGURE 2**

Backlight setting min/max display values
Span & Zero Adjustment
The unit is equipped with a span adjustment and a zero to L,M,H. Use the potentiometer for the zero adjustment.

Span Adjustment:
\[
\text{If:}\quad \text{Min Display} \leq 0 \quad \text{or} \quad \text{Min Display} > 0 \quad \text{and} \quad \frac{\text{Max Display}}{\text{Min Display}} > 5 \\
\text{Then:}\quad \text{Span Factor} = \frac{2.5 (\text{Max Display} - \text{Min Display})}{4000 + 0.02 (\text{Min Display}) - 0.004 (\text{Max Display})}
\]

\[
\text{If:}\quad \text{Min Display} > 0 \quad \text{and} \quad \frac{\text{Max Display}}{\text{Min Display}} \leq 5 \\
\text{Then:}\quad \text{Span factor} = \frac{\text{Max Display} - \text{Min Display}}{1600}
\]

Zero Adjustment:
\[
\text{If:}\quad \text{Min Display} \leq 0 \quad \text{or} \quad \text{Min Display} > 0 \quad \text{and} \quad \frac{\text{Max Display}}{\text{Min Display}} > 5 \\
\text{Then:}\quad \text{Zero Factor} = \frac{(250,000 + \text{Min Display}) \times 83,834}{(250,000 + 400 \text{ (Span Factor)})} - 73,200
\]

\[
\text{If:}\quad \text{Min Display} > 0 \quad \text{and} \quad \frac{\text{Max Display}}{\text{Min Display}} \leq 5 \\
\text{Then:}\quad \text{Zero Factor} = 10,634 - \frac{(\text{Min Display} - 400 \text{ (Span Factor)}) \times 83,834}{250,000}
\]

Setting Min/Max Display Value J1, J2, J3 (See Figures 4 & 5):
\[
\text{If:}\quad \text{Min Display} \leq 0 \quad \text{or} \quad \text{Min Display} > 0 \quad \text{and} \quad \frac{\text{Max Display}}{\text{Min Display}} > 5 \\
\text{Then:}\quad \text{J1, J2 & J3 should be all set to the top jumper (see Figure 4).}
\]

\[
\text{If:}\quad \text{Min Display} > 0 \quad \text{and} \quad \frac{\text{Max Display}}{\text{Min Display}} \leq 5 \\
\text{Then:}\quad \text{J1, J2 & J3 should be all set to the bottom jumper (see Figure 5).}
\]