



# LCD Digital Panel Meters

## Digital Meters

4½ Digit LCD with Loop Powered Board



### FEATURES

- Low-cost, high-performance replacement for many OEM DPMs
- Optional RED, GREEN, AMBER or POS GREEN backlit LCD
- Snap-in bezel mount eliminates mounting hardware
- Resistant to RF and EMI
- 4½ digits with high-contrast LCD
- 4-20 mA loop powered input
- User selectable, displayed engineering units
- Clamp and gasket for NEMA applications

### SPECIFICATIONS

#### DISPLAY

**Digits:** 4 ½ digits ( $\pm 19999$  counts)  
**Type:** 0.45" (11.4 mm) 7 segment LCD  
**Backlighting:** Optional Red Negative (red numbers/black background)  
 Optional Green Negative (green numbers/black background)  
 Optional Amber Negative (amber numbers/black background)  
 Optional Green Positive (black numbers/green background)  
**Polarity:** automatic, "-" displayed  
**Annunciators:** °F, °C, PSI, % , user selectable  
**Decimal Points:** 4 position, user selectable  
**Overrange:** four lower order digits blank for inputs  $>19999$  &  $< -19999$

#### INPUTS

**Ranges:** 4-20 mA DC  
**Configuration:** bipolar differential  
**Impedance:** 300 $\Omega$  nominal

#### PERFORMANCE

**Accuracy:**  $\pm(0.1\% \text{ fs} + 2 \text{ count})$   
**Conversion Rate:** 3 per second  
**Normal Mode Rejection:**  $>30 \text{ dB @ } 60 \text{ Hz}$   
**Common Mode Range:**  $\pm 1 \text{ VDC max}$   
**Common Mode Rej.:**  $>86 \text{ dB}$   
**Adjustments:** span (gain) and zero (offset)  
**Warmup:** 10 minutes typical  
**Temperature Coeff.:**  $\pm 100 \text{ ppm per } ^\circ\text{C typical}$

#### ENVIRONMENT

**Operating Range:** 0 to 50 °C  
**Storage Range:** -20 to 70 °C

#### POWER SUPPLY

powered by the milliamp control loop

#### Optional Backlight:

24 VDC at 35 mA typical

#### MOUNTING

snap-in bezel mount or clamp and gasket

#### CONNECTION

2 screw terminal (4 with backlight)

**Hoyt Electrical Instrument Works Inc.**

23 Meter Street  
 Penacook, NH 03303

**Phone:** (800) 258-3852

**Fax:** (603) 753-9592

**Email:** sales@hoytmeter.com

[www.hoytmeter.com](http://www.hoytmeter.com)

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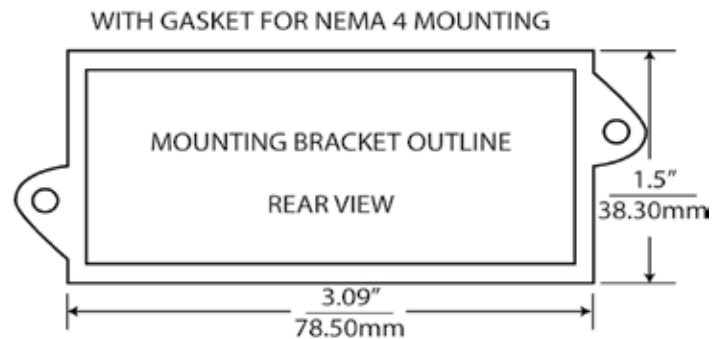
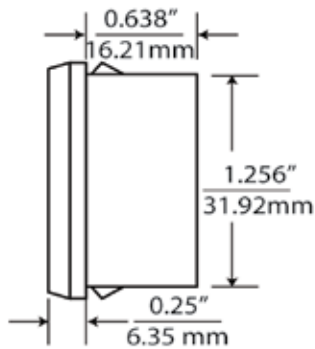
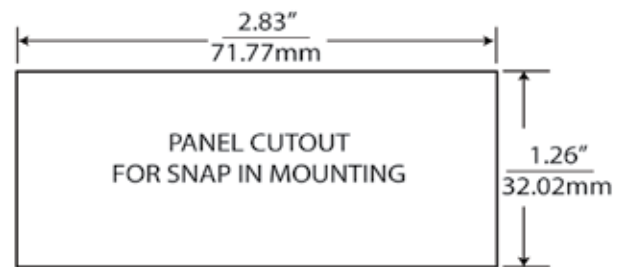
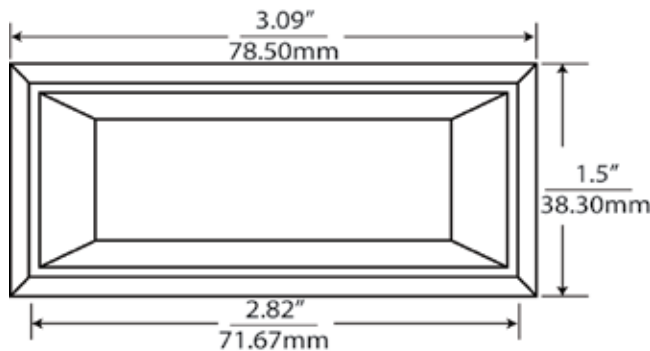


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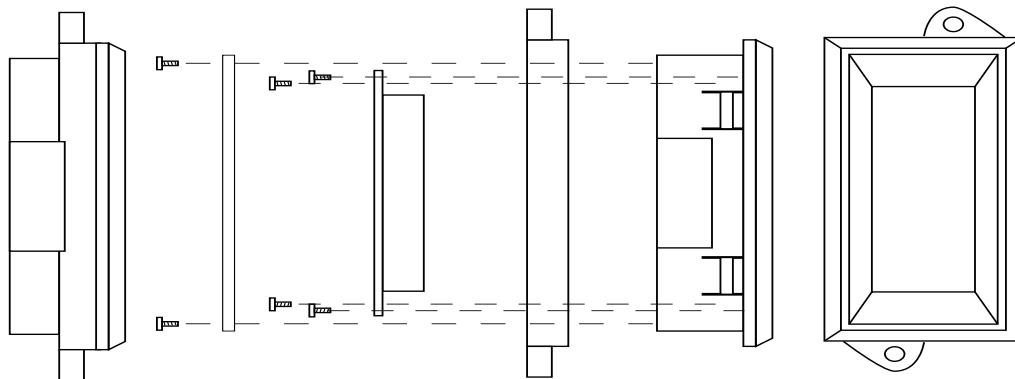
### DIMENSIONS



**NOTES:**

1. Panel thickness is: 0.032"/0.81mm to 0.25"/6.35mm
2. Gasket supplied is: 0.09"/2.25mm thick

inches  
mm





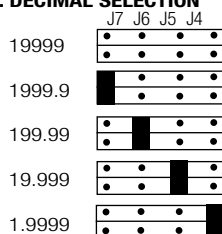
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### JUMPER SELECTION & WIRING

#### 1. DECIMAL SELECTION



#### 2. J1, J2, J3 SELECTION

**IF:** MIN DISPLAY IS = 0 **or**  
MIN DISPLAY IS > 0 **and**  
MAX DISPLAY ÷ MIN DISPLAY ≥ 5



**IF:** MIN DISPLAY IS > 0 **and**  
MAX DISPLAY ÷ MIN DISPLAY < 5



#### 3. SPAN JUMPER SECTION

SPAN FACTOR	SET JUMPERS
0-12	L
10-22	M
22-32	H

**IF:** MIN DISPLAY IS ≤ 0 **or**  
MIN DISPLAY IS > 0 **and** MAX DISPLAY ÷ MIN DISPLAY > 5

**THEN:** SPAN FACTOR =  
$$\frac{2.5 (\text{MAX DISPLAY} - \text{MIN DISPLAY})}{4000 + 0.02 (\text{MIN DISPLAY}) - 0.004 (\text{MAX DISPLAY})}$$

**IF:** MIN DISPLAY IS > 0 **and** MAX DISPLAY ÷ MIN DISPLAY ≤ 5

**THEN:** SPAN FACTOR =  
$$\frac{\text{MAX DISPLAY} - \text{MIN DISPLAY}}{1600}$$

#### 4. ZERO (OFFSET) JUMPER SELECTION:

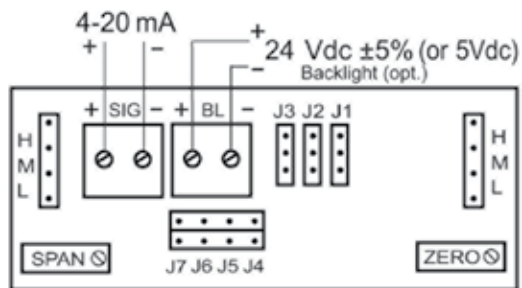
ZERO FACTOR	SET JUMPERS
0-3994	H
3320-7314	M
6640-10634	L

**IF:** MIN DISPLAY IS ≤ 0 **or**  
MIN DISPLAY IS > 0 **and** MAX DISPLAY ÷ MIN DISPLAY > 5

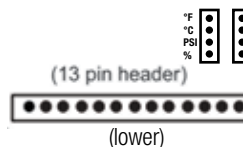
**THEN:** ZERO FACTOR =  
$$\frac{(250000 + \text{MIN DISPLAY}) \times (83834) - 73200}{(250000 + 400 (\text{SPAN FACTOR}))}$$

**IF:** MIN DISPLAY IS > 0 **and** MAX DISPLAY ÷ MIN DISPLAY ≤ 5

**THEN:** ZERO FACTOR =  
$$\frac{(10634 - (\text{MIN DISPLAY} - 400 (\text{SPAN FACTOR})) \times 83834}{250000}$$



WIRING



### HOW TO ORDER

PART NUMBER	BACKLIGHT COLOR	BACKLIGHT POWER
HLPI-4-XEC.....	NO BACKLIGHT .....	NONE
HLPI-4A-XEC .....	NEG AMBER .....	24VDC
HLPI-4R-XEC .....	NEG RED.....	24VDC
HLPI-4G-XEC .....	NEG GREEN.....	24VDC
HLPI-4GP-XEC .....	POS GREEN.....	24VDC

#### ACCESSORIES

HPW2-24.....	Regulated 120V AC to 24V DC Power Supply
HPW1.0 .....	24V AC to adjustable DC output
HPW1.5 .....	24V AC to adjustable DC output
HCVC .....	Calibrator