

# **3-1/2D LCD**

## **Digital Panel Meter**

### **PM-428/PM-438**

#### **1. FEATURES**

- 200mV full scale input sensitivity
- Single 9V DC operation
- Decimal Point selectable
- 13mm LCD figure height
- Automatic Polarity Indication
- Guaranteed zero reading for 0 volts input
- High input impedance (>100 Mohm)

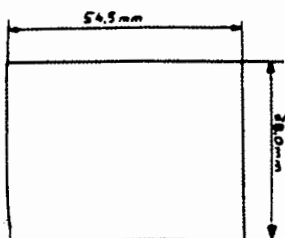
#### **2. APPLICATIONS**

- |             |                                     |
|-------------|-------------------------------------|
| Voltmeter   | Current Meter                       |
| Thermometer | Capacitance Meter                   |
| PH Meter    | Lux Meter                           |
| dB Meter    | LCR meter                           |
| Watt Meter  | Other Industrial &<br>Domestic Uses |

#### **3. SPECIFICATIONS**

- |                       |   |
|-----------------------|---|
| Maximum Input:        | 199.9mV DC  |
| Maximum Display:      | 1999 counts (3-1/2 Digit) with<br>automatic polarity indication |
| Indication Method:    | LCD display   |
| Measuring Method:     | Dual-Slope Integration A/D<br>converter system                  |
| Overrange Indication: | "1" shown in the display  |
| Reading rate time:    | 2-3 readings per sec.   |
| Input Impedance:      | >100 Mohms  |
| Accuracy:             | $\pm 0.5\%$ ( $23^{\circ}\pm 5^{\circ}\text{C}$ , <80% RH)      |
| Power Dissipation:    | 1 mA DC   |
| Decimal Point:        | Selectable with wire jumper                                     |
| Supply Voltage:       | 8-12V DC  |
| Size:                 | 68mm x 44mm   |

#### 4. PANEL HOLE FOR FIXING PM-428/PM-438



#### 5. OPERATION:

A) If needed, added proper voltage dividers (not included) and decimal point wire jumper:

Max. Voltage to be measured	Proper Voltage Divider	Decimal Point
200mV	-	Shortcircuit P3
20V	Disconnect wire jumper in RB. RB=9.9 Mohms RA=100 Kohms	Shortcircuit P2
200V	Disconnect wire jumper in RB. RB=9.99 Mohms RA=10 Kohms	Shortcircuit P3
500V	Disconnect wire jumper in RB. RB=9.999 Mohms RA=1 Kohm	-

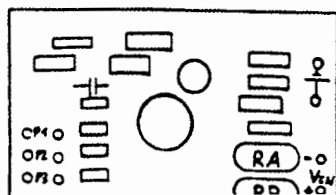
RA and RB are 1/2W 0.5% Metal Film Resistors.

B) Connect an 8-12V DC power supply to panel meter.

C) For ranges other than 200mV, input accurate 1/2 x Max Voltage generated by calibrator (e.g. 100.0V for 200.0V range) and carefully adjust semifixed resistor R2 to have the same reading in LCD.

D) Connect the input voltage to be measured to Vin and GD. The input voltage should be DC only.

#### 6. WIRING DIAGRAM:



8-12V  
DC

Input Signal