


3-1/2D LCD
Digital Panel Meter
PM438




1. FEATURES

- 200mV full scale input sensitivity
- Single 9V  battery operation
- Decimal point selectable
- 13mm LCD figure height
- Automatic polarity indication
- Guaranteed zero reading for 0 volts input
- High input impedance ($\leq 10\text{ M}\Omega$)

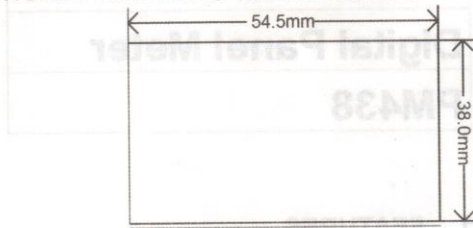
2. APPLICATIONS

Voltmeter	Current Meter
Thermometer	Capacitance Meter
PH Meter	Lux Meter
dB Meter	LCR Meter
Watt Meter	Other Industrial & DIY Uses

3. SPECIFICATIONS

- Maximum Input:** 199.9mV 
- Maximum Display:** 1999 counts (3-1/2 Digit) with automatic polarity indication
- Indication Method:** LCD display
- Measuring Method:** Dual-Slope Integration A/D converter system
- Over range Indication:** "1" shown in the display
- Reading Rate Time:** 2-3 readings per sec.
- Input Impedance:** $\leq 10\text{ M}\Omega$
- Accuracy:** $\pm 0.5\%$ ($23\pm 5^\circ\text{C}$, $< 80\%$ RH)
- Power Dissipation:** 1mA 
- Decimal Point:** Selectable with short-circuit
- Supply Voltage:** 8-12V 
- Size:** 68mm \times 44mm

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



5. OPERATION:

a. If needed, added proper voltage dividers (RA & RB are not included) and decimal point wire jumper:

Range	Proper voltage divider	Decimal Point
DC 200mV	RA=0Ω, RB=10MΩ	P3
DC 2V	RA=10MΩ, RB=1MΩ	P1
DC 20V	RA=10MΩ, RB=100KΩ	P2
DC 200V	RA=10MΩ, RB=10KΩ	P3
DC 500V	RA=10MΩ, RB=1KΩ	-
DC 2mA	RA=0Ω, RB=100Ω	P1
DC 20mA	RA=0Ω, RB=10Ω	P2
DC 200mA	RA=0Ω, RB=1Ω	P3
DC 2A	RA=0Ω, RB=0.1Ω	P1

Note: RA & RB must be more than 1/4W 0.5% Metal Film Resistors or best and higher. (Default: 1/4W 0.5% Metal Film)

- b. Connect an 8-12V power supply to panel meter.
- c. For ranges other than 200mV, input accurate $1/2 \times$ Max. Voltage generated by calibrator (e.g. 100.0V for 200.0V range) and carefully adjust semi fixed resistor 201 to have the same reading in LCD.
- d. Connect the input voltage or current to be measured to IN and COM. The input voltage should be DC only.
- e. Connect the power to "+" and "-" polarity.