

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)

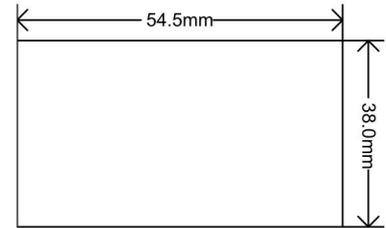
Power Dissipation: 1mA 

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=0 Ω , RB=10M Ω	P3
DC 2V	RA=10M Ω , RB=1M Ω	P1
DC 20V	RA=10M Ω , RB=100K Ω	P2
DC 200V	RA=10M Ω , RB=10K Ω	P3
DC 500V	RA=10M Ω , RB=1K Ω	-
DC 2mA	RA=0 Ω , RB=100 Ω	P1
DC 20mA	RA=0 Ω , RB=10 Ω	P2
DC 200mA	RA=0 Ω , RB=1 Ω	P3
DC 2A	RA=0 Ω , RB=0.1 Ω	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.