3-1/2 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 & Domestic Uses

3. SPECIFICATIONS
Maximum Input: 199.9mV DC
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
Overrange Indication: “1” shown in the display
Reading rate time: 2-3 readings per sec.
Input Impedance: >100 Mohms
Accuracy: ± 0.5% (23° ± 5°C, <80% RH)
Power Dissipation: 1 mA DC
Decimal Point: Selectable with wire jumper
Supply Voltage: 8-12V DC
Body Dimension: 68mm × 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:

<table>
<thead>
<tr>
<th>Max. Voltage to be measured</th>
<th>Proper Voltage Divider</th>
<th>Decimal Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>200mV</td>
<td>Disconnect wire jumper in RB. RB=9.9 Mohms RA=100 Kohms</td>
<td>Shortcircuit P1</td>
</tr>
<tr>
<td>20V</td>
<td>Disconnect wire jumper in RB. RB=9.99 Mohms RA=10 Kohms</td>
<td>Shortcircuit P2</td>
</tr>
<tr>
<td>200V</td>
<td>Disconnect wire jumper in RB. RB=9.999 Mohms RA=1 Kohm</td>
<td>Shortcircuit P1</td>
</tr>
<tr>
<td>500V</td>
<td>Disconnect wire jumper in RB. RB=9.9999 Mohms RA=1 Kohm</td>
<td></td>
</tr>
</tbody>
</table>

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 1/2x 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:

7. INSTALLATION INSTRUCTION

Panel 8-12V DC Input Signal to be measured