3-1/2D LCD Digital Penal Meter
PM128/PM-188

1. FEATURES

200mV full scale input sensitivity
Single 9V DC operation
Decimal point selectable
13mm figure height
Automatic Polarity indication
Guaranteed zero reading for 0 volt input
High input impedance (>100MΩ)
Easy Bezel fixing Method

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 Digits) 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 second.
Input Impedance:	> 100MΩ
Accuracy:	±0.5% (23°±5°C, < 80%RH)
Power Dissipation:	1 mA DC
Decimal Points:	Selectable with wire jumper
Supply Voltage:	7-11V DC
Size:	68mm x 44mm

Please Note
The supply voltage and voltage to be measured MUST have separated grounds.

4. OPERATION

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

Max. Voltage to be measaured	Proper Voltage Divider	Decimal Point Fixing Method
200mV		Shortcircuit P1 on and P2,P3 off
20V	Disconnect wire jumper in RB, RA=100KΩ RB=9.9MΩ	Shortcircuit P2 on and P1,P3 off
200V	Disconnect wire jumper in RB, RA=10KΩ RB=9.99MΩ	Shortcircuit P1 on and P2,P3 off
500V	Disconnect wire jumper in RB, RA=1KΩ RB=9.999MΩ	

Shortcircuit N on to enable polarity sign function or shortcircuit N off to disable polarity sign function.
RA and RB are 1/2W 0.5% Metal Film Resistors.

b) Connectgion 7-11 V DC power supply to panel metel, pay attention to the proper polarity.

c) For range other than 200 mV, input accurate 1/2 x Max. Voltage generated by calibrator (e.g. 100.0V for 200.0V range) and carefully adjust the semi-fixed resistor R4 to have same reading in LCD.

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