

DPM 490

4½ Digit LED Panel Meter

This high performance meter uses 10mm (0.39") LED displays behind a red window. The meter is housed in a robust DIN case and uses a 0.1" pitch shrouded pin connector at the rear. A screw terminal block adaptor board is available. With the simple addition of scaling resistors or a shunt, this module will measure most DC voltages and currents. The DPM 490 features auto-zero, auto-polarity and a choice of decimal points. The operating mode is selected via a set of DIP switches. Calibration is achieved via a single multi-turn potentiometer.

- 🔊 10mm (0.39") Digit Height
- 🔊 Optional Screw Terminal Connections
- 🔊 Auto-zero, Auto-polarity
- 🔊 2V d.c. Full Scale Reading (F.S.R.)
- 🔊 Easy Configuration via DIP Switches
- 🔊 Snap-in Panel Mounting DIN Case



SCALING

Two resistors Ra and Rb may be fitted in order to alter the full scale reading (F.S.R.) of the meter - see table. The meter will need re-calibration by adjusting CAL (remove the bezel to access CAL potentiometer).

| Required F.S.R. | | Ra | Rb |
|-----------------|------|------|------|
| 20V | Note | 910k | 100k |
| 200V | Note | 1M | 10k |
| 2kV | Note | 1M | 1k |
| 200µA | | 0R | 10k |
| 2mA | | 0R | 1k |
| 20mA | | 0R | 100R |
| 200mA | | 0R | 10R |
| 2A | | 0R | 1R |

NOTE

Ensure that Link La is open if fitting Ra.

Stock Number Standard Meter

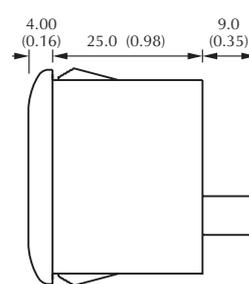
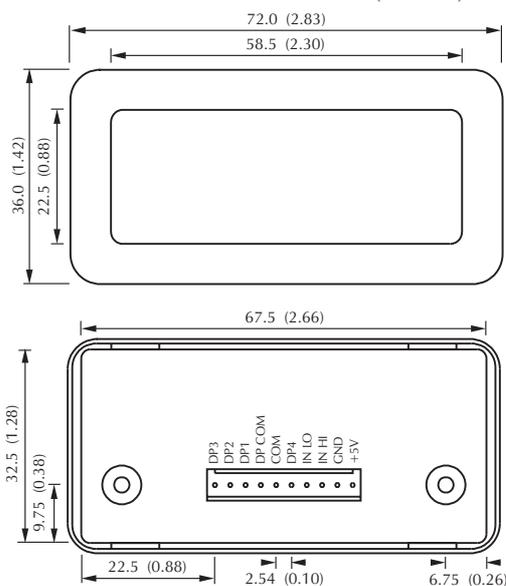
| Specification | Min. | Typ. | Max. | Unit |
|----------------------------------|---------|-------|--------|--------------|
| Accuracy (overall error)* | | 0.005 | 0.01 | % (±1 count) |
| Linearity | -1 | | +1 | count |
| Full scale reading | -1999.9 | | 1999.9 | mV d.c. |
| Resolution | | 0.01 | | mV |
| Sample rate | | 2.5 | | samples/sec |
| Operating temperature range | 0 | | 50 | °C |
| Temperature stability | | 30 | | ppm/°C |
| Supply voltage | | 5 | 5.5 | V d.c. |
| Supply current | | 120 | 200 | mA |
| Input leakage current (Vin = 0V) | | 1 | 10 | pA |

* To ensure maximum accuracy, re-calibrate periodically.

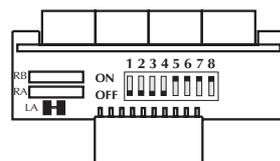
CONNECTOR SOURCING GUIDE

| METHOD | METHODE | HARWIN | SAMTEC |
|------------------------------|---|-------------|----------------|
| PCB socket | 900F-110-301 | M20-9821022 | SSW-110-02-F-S |
| Terminal Block Adaptor Board | Available From Lascar - Stock No. T/BLK-1 | | |

DIMENSIONS All dimensions in mm (inches)



Panel cut-out
68 x 33 (2.68 x 1.30)
Panel thickness
1.0 to 2.8 (0.04 to 0.11)



Link diagram (top view)

PANEL FITTING

Locate the meter by passing it through the front panel cut-out, gently pushing until the rear of the bezel is flush with the panel. The snap-in lugs will now automatically hold the meter firmly in position.

WEBSITE: <http://www.lascarelectronics.com/>

PIN FUNCTIONS

- | | |
|-----------|---|
| 1. +5V | Positive power supply input. |
| 2. GND | Negative power supply input. |
| 3. INHI | Positive measuring input. |
| 4. INLO | Negative measuring input. |
| 5. DP4 | 1.9999 (DIP switch 1). Connect to DP COM or turn relevant DIP switch to on position to display. |
| 6. COM | Analogue common. The ground for the analogue section of the A/D converter, internally connected to 0V via DIP switch 5. |
| 7. DP COM | Connect to pins 8, 9 or 10 to display required DP. |
| 8. DP1 | 1999.9 (DIP switch 4) |
| 9. DP2 | 199.99 (DIP switch 3) |
| 10. DP3 | 19.999 (DIP switch 2) |
- } Analogue inputs must be no closer than 1.5V to either the positive or negative supply. The negative supply of this meter is generated internally and mirrors the positive supply voltage.
- } Connect to DP COM or turn relevant DIP switch to on position to display.

SAFETY

To comply with the Low Voltage Directive (LVD 93/68/EEC), input voltages to the module's pins must not exceed 60V d.c. If voltages to the measuring inputs do exceed 60V d.c., then fit scaling resistors externally to the module. The user must ensure that the incorporation of the DPM into the user's equipment conforms to the relevant sections of BS EN 61010 (Safety Requirements for Electrical Equipment for Measuring, Control and Laboratory Use).

OPTIONAL SCREW TERMINAL CONNECTOR - T/BLK-1

VARIOUS OPERATING MODES

ON-BOARD DIP SWITCHES: In order to quickly and easily change operating modes for different applications the meter has several on-board DIP switches. **Do not** connect more than one meter to the same power supply if the meters cannot use the same signal ground. Taking any input beyond the power supply rails will damage the meter.

DIP SWITCH FUNCTION

| | |
|-------|---|
| 1 DP4 | 5 COM to GND |
| 2 DP3 | 6 INLO to GND |
| 3 DP2 | 7 REFIN to REF+ (internal reference connection) |
| 4 DP1 | 8 IN LO to COM |

Measuring Current
(Supply must be isolated).

Measuring a single ended input
referenced to supply.

Measuring 4-20mA to read 0-999
(Supply MUST be isolated).