

DPM 490

4½ Digit LED Panel Meter

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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

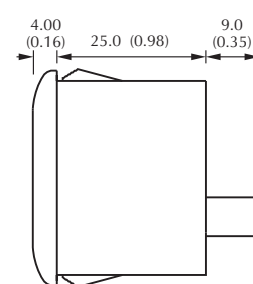
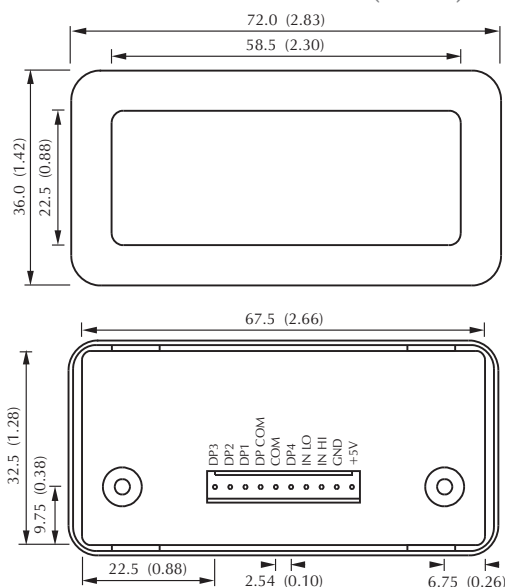
Specification	Min.	Typ.	Max.	Unit
Accuracy (overall error)*		0.005	0.01	% (±1 count)
Linearity	-1		+1	count
Full scale reading	-1999.9		1999.9	mV d.c.
Resolution		0.1		mV
Sample rate		2.5		samples/sec
Operating temperature range	0		50	°C
Temperature stability		30		ppm/°C
Supply voltage		5	5.5	V d.c.
Supply current		120	200	mA
Input leakage current (Vin = 0V)		1	10	pA

* To ensure maximum accuracy, re-calibrate periodically.

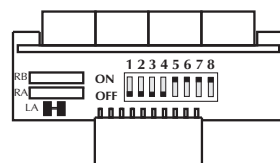
CONNECTOR SOURCING GUIDE

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/>

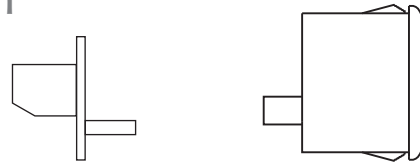
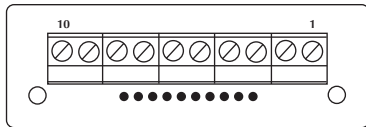
PIN FUNCTIONS

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

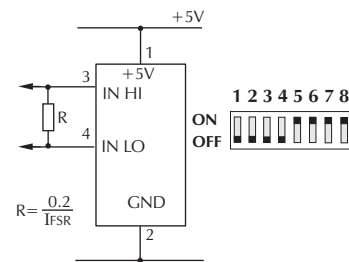
ON-BOARD DIP SWITCHES: In order to quickly and easily change operating modes for different applications the meter has several on-board DIP switches. **Do not** connect more than one meter to the same power supply if the meters cannot use the same signal ground. Taking any input beyond the power supply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



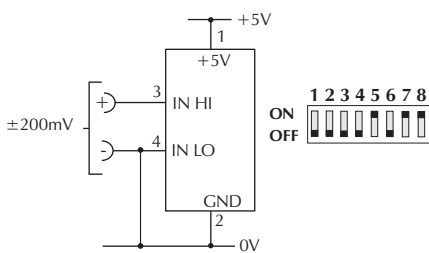
DIP SWITCH FUNCTION

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

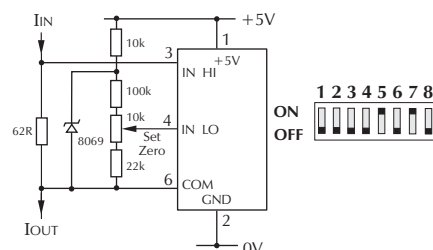
For correct operation, ensure that DIP Switch 5 is always ON.



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).