DPM 343

3½ Digit LED Module

A high performance LED module offering more environmental protection than card types. True differential inputs and reference allow single ended, differential, ratio-metric or 'floating' measurements to be made. High efficiency LEDs behind a red filter produce an excellent high contrast display.

- **14.2mm (0.56) Digit Height**
- **Auto-zero**
- **Auto-polarity**
- **200mV d.c. Full Scale Reading (F.S.R.)**
- **Bandgap Reference**
- **DIN Cased**

SCALING

Two resistors R2 and R3 may be fitted in order to alter the full scale reading (F.S.R.) of the meter - see table.
The meter will need re-calibrating by adjusting CAL.

Required F.S.R.		R2	R3
2V	note	910k	100k
20V	note	1M	10k
200V	note	1M	1k
2kV	note	1M	100R
200µA		LINK	1k
2mA		LINK	100R
20mA		LINK	10R
200mA		LINK	1R

NOTE
Ensure that link across R2 is OPEN.

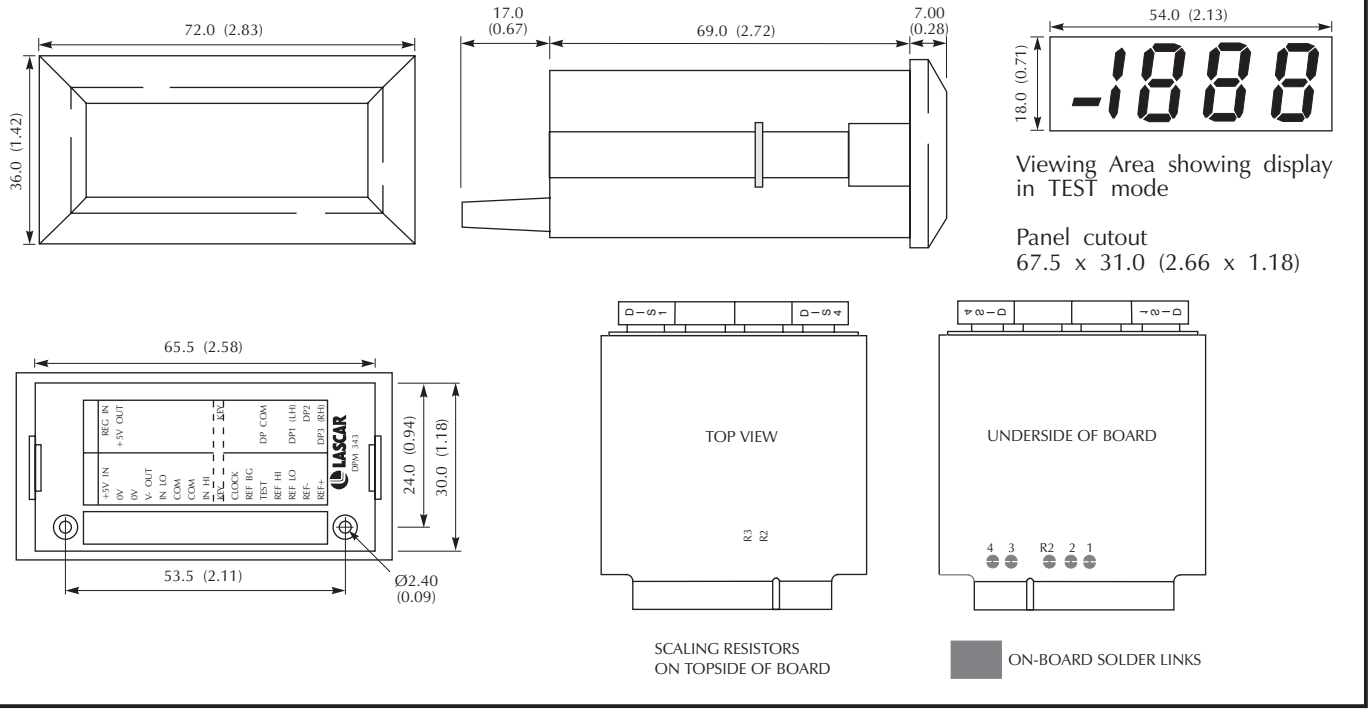
Standard Meter				Stock Number DPM343
Specification	**Min.**	**Typ.**	**Max.**	**Unit**
Accuracy (overall error)*		0.05	0.1	% (±1 count)
Linearity			±1	count
Sample rate		3		samples/sec
Operating temperature range	0		50	°C
Temperature stability		30		ppm/°C
Supply voltage		5	5.5	V
Supply current		100	200	mA

* To ensure maximum accuracy, re-calibrate periodically.

CONNECTOR SOURCING GUIDE

METHOD	LASCAR EC 16 DS

DIMENSIONS All dimensions in mm (inches)



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PIN FUNCTIONS

A.	+5V	Positive power supply input.
B, C.	0V	Negative power supply input.
D.	V-	Internally generated negative power supply, approx. -2.8V (max. load 1mA).
E.	IN LO	Negative measuring input.
F, G.	COM	The ground for the analogue section of the A/D converter, held actively at 2.8V (nom) below +5V.
H.	IN HI	Positive measuring input.
J.	KEY	Polarising slot for edge connector. Corresponds to Pin 9.
K.	CLOCK	Connect to 0V to hold display reading.
L.	REF BG	Output of bandgap reference (1.22V nom.).
M.	TEST	Connect to +5V to display all segments (except DPs). Display will read -1888.
N.	REF HI	Positive input for reference voltage.
P.	REF LO	Negative input for reference voltage.
Q.	REF-	Negative output from on-board reference. Must be tied to a suitable ground return to bias bandgap (normally COM).
R.	REF+	Positive output from on-board reference (100mV).
1.	REG IN	Positive input for 7.5 - 15V power supply option.
2.	+5V	+5V Rail - Internally connected to Pin A.
9.	KEY	Polarising slot for edge connector. Corresponds to Pin J.
12.	DP COM	Connect to pin 14, 15 or 16 to display required decimal point.
14.	DP1	1.999
15.	DP2	19.99
16.	DP3	199.9

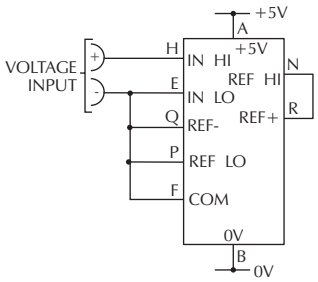
Note - All unspecified pins have no required connection.

SAFETY

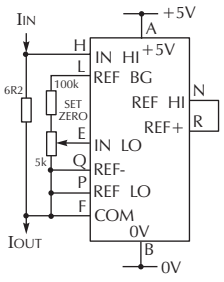
To comply with the Low Voltage Directive (LVD 93/68/EEC), input voltages to the module's pins must not exceed 60Vdc. If voltages to the measuring inputs do exceed 60Vdc, then fit scaling resistors externally to the module. The user must ensure that the incorporation of the DPM into the user's equipment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

VARIOUS OPERATING MODES

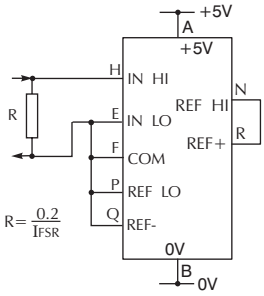
Do not connect more than one meter to the same power supply if the meters cannot use the same signal ground. Taking any input beyond the power supply rails will damage the meter. Analogue inputs must be no closer than 1V to the positive supply or lower than 1.5V below 0V.



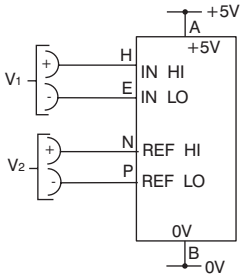
Floating Input.



Measuring 4-20mA to read 0-999.



Measuring Current.



Measuring the ratio of two voltages
Reading = 1000 V_1/V_2.
$50mV < V_2 < 200mV$
$V_1 < 2V_2$