DPM 340

Miniature 3½ Digit LED Voltmeter

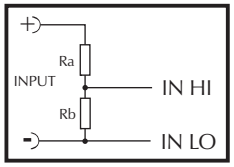
A very compact low-cost LED module ideally suited for applications where a bright display under all conditions is required. The DPM 340 is fitted with high efficiency, very low current LEDs and is housed in a carrier with integral snap-in bezel. The small size and low cost of the unit makes it very suitable for high volume OEM applications.

- 8mm (0.31") Digit Height
- Programmable Decimal Points
- Auto-zero, Auto-polarity
- 200mV d.c. Full Scale Reading (F.S.R.)
- Very Low Current Consumption



SCALING

Two resistors Ra and Rb may be used in order to alter the full scale reading (F.S.R.) of the meter - see table.



The meter will need re-calibration by adjusting the on-board potentiometer.

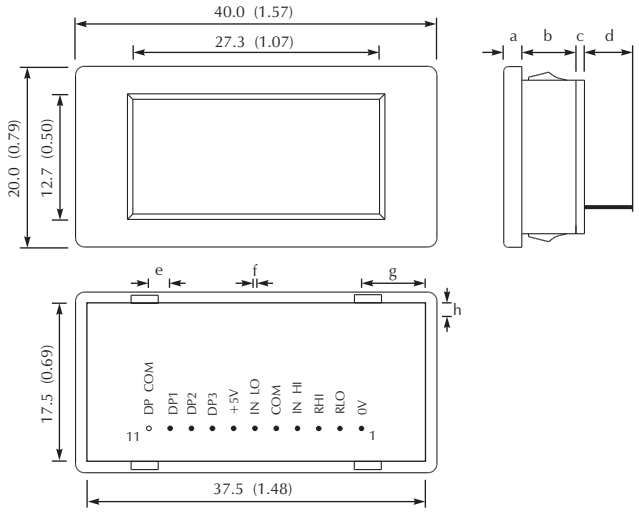
Required F.S.R.	Ra	Rb
2V	910k	100k
20V	1M	10k
200V	1M	1k
2kV	1M	100R
200µA	LINK	1k
2mA	LINK	100R
20mA	LINK	10R
200mA	LINK	1R

Standard Meter				Stock Number DPM 340
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		150		ppm/°C
Supply voltage	4.75	5	5.25	V
Supply current**		50	65	mA
Input leakage current (Vin = 0V)		1	10	pA

* To ensure maximum accuracy, re-calibrate periodically.

** Depends on reading.

DIMENSIONS All dimensions in mm (inches)

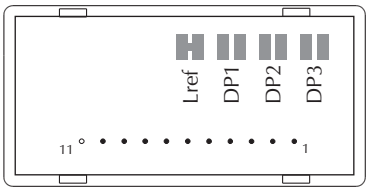


a. 2.00 (0.08)
b. 6.00 (0.24)
c. 1.60 (0.06) max
d. 6.00 (0.24)
e. 2.54 (0.10)
f. 0.50 (0.02)
g. 6.00 (0.23)
h. 2.00 (0.08)

Panel cut-out
38.0 x 18.0 (1.50 x 0.71)

Panel thickness
1.0 to 2.5 (0.04 to 0.1)

ON BOARD SOLDER LINKS



PANEL FITTING

Locate the meter by passing it through the front of the panel cut-out and gently push until the rear of the bezel is flush with the panel (DO NOT PUSH ON THE DISPLAY AREA). The snap-in lugs will now automatically hold the meter firmly in position.

LASCAR ELECTRONICS LTD.
MODULE HOUSE, WHITEPARISH,
WILTSHIRE SP5 2SJ UK
TEL: +44 (0)1794 884567 FAX: +44 (0)1794 884616
E-MAIL: sales@lascar.co.uk

LASCAR ELECTRONICS INC.
4258 WEST 12th STREET,
ERIE, PA 16505 USA
TEL: +1 (814) 835 0621 FAX: +1 (814) 838 8141
E-mail: us-sales@lascarelectronics.com

LASCAR ELECTRONICS (HK) LTD.
8th FLOOR, CHINA AEROSPACE CENTRE, 143 HOI BUN
ROAD, KWUN TONG, KOWLOON, HONG KONG
TEL: +852 2389 6502 FAX: +852 2389 6535
E-mail: saleshk@lascar.com.hk

PIN FUNCTIONS

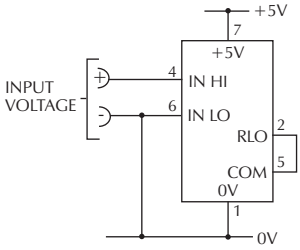
1. 0V — Negative power supply input.
2. RLO — Negative input for reference voltage.
3. RHI — Positive input for reference voltage.
4. IN HI — Positive measuring input.
5. COM — The ground for the analogue section of the converter, held actively at 3.05V (nom) below +5V. This pin is for use only when the module is used with a fully floating supply.
   It should on no account be connected to any other terminations or circuitry except as specified in the relevant operating modes.
6. IN LO — Negative measuring input.
7. +5V — Positive power supply input.
8. DP3 — 1.999
9. DP2 — 19.99 — Connect required DP pin to DP COM.
10. DP1 — 199.9
11. DP COM — Connect to required decimal point (DP1, DP2 or DP3) to illuminate. This pin is not fitted as standard to the DPM 340.

Note: A negative supply is generated internally and mirrors the positive supply. For example: if V+ is +5V, then the internally generated V- is -5V. When measuring with the input referenced to the same supply rail as that of the panel meter, then the limitations on the input range are (V- + 1.5V) to (V+ - 1.5V).

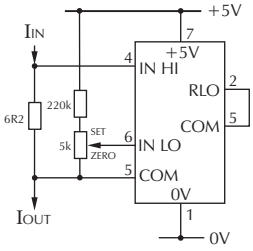
SAFETY

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).

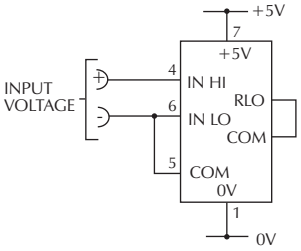
VARIOUS OPERATING MODES



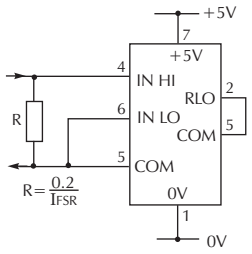
Operation with input referenced to panel meter supply (single ended).



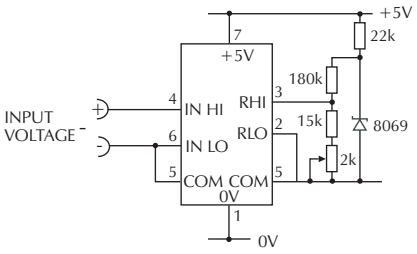
Measuring 4-20mA to read 0-999.



Operation with input floating with respect to power supply.



Measuring current.



Adding an external reference.
1. Cut Link Lref
2. Fit components as indicated above.