Instruction Leaflet

3½ Digit LCD DPM

RS stock no. 260-268

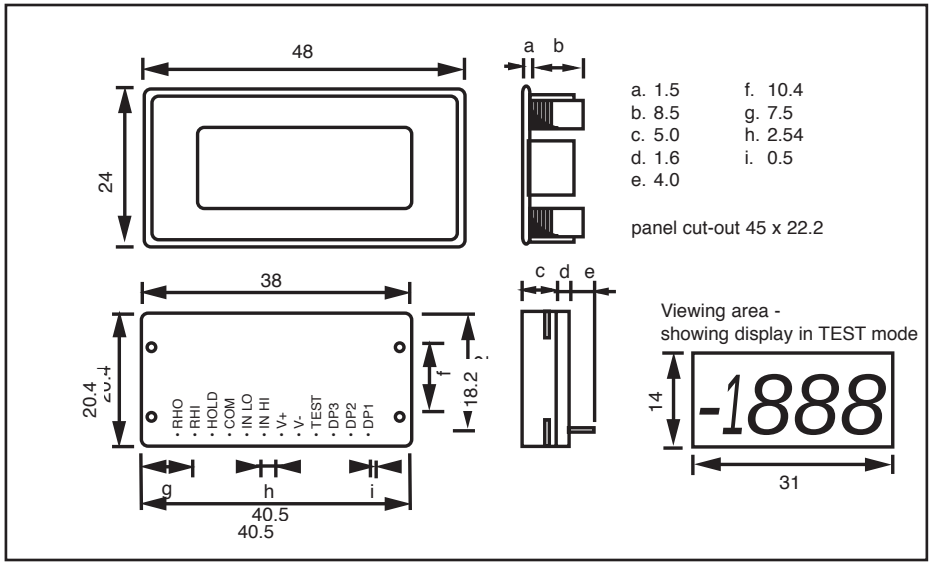
Features:

- Δ Ultra compact
- Δ 12.5mm digits
- Δ Ultra-low power
- Δ Snap in bezel
- Δ Digital hold

A uniquely compact LCD DPM ideally suited for low or high volume applications featuring an exceptionally large display in a sub miniature package. The meter will plug directly into aSIL socket or can be panel mounted using the snap-in bezel provided. The low profile bezel incorporates a flat reverse printed window giving a superb appearance that cannot be damaged or rubbed off by contact.

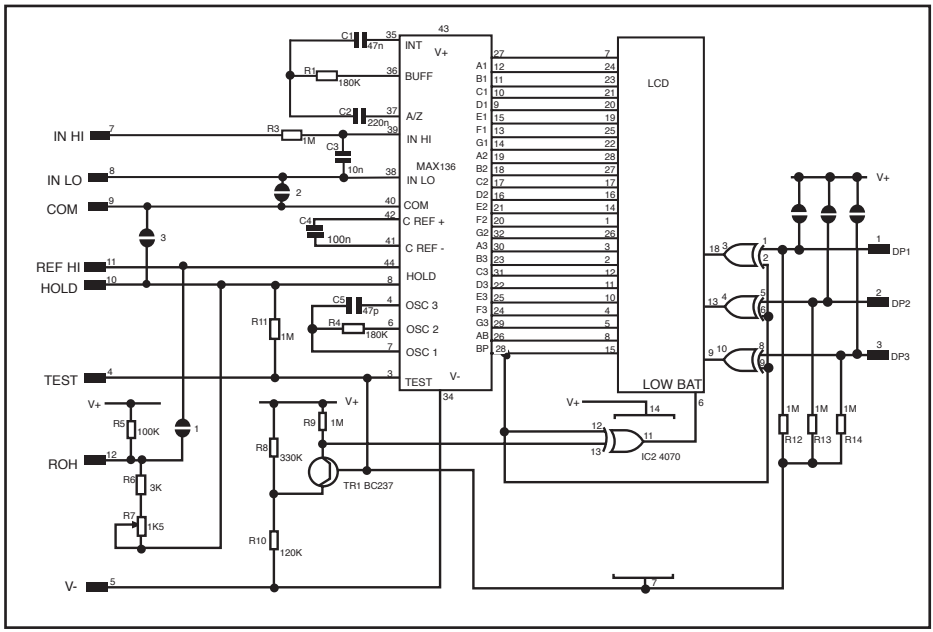
The meter features auto-zero, auto-polarity, 200m,V FSD, 12.5mm digit height, low battery indication and logic selectable decimal points. On card solder pads for essential inter-connections make selection of operating mode quick and easy with the minimum of external wiring. Very low current consumption allows long battery life making it especially useful in portable equipment. It also features a digital hold input which will hold the reading indefinitely.

Specification	Min	Typ	Max	Unit
Accuracy (±1 count)		0.05	0.1	%
Linearity			±1	Count
Sample rate		3		per sec
Temp. stability		100		ppm/°C
Temp. range	0		50	°C
Supply voltage	7.5	9	15	V
Supply current		150		µA
Max DC input voltage			±20	V
Input leakage current (VIN = 0V)		1	10	pA
Low battery threshold		7.5		V

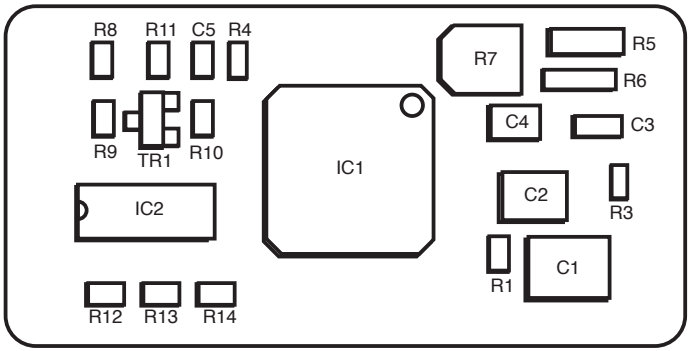


Pin Functions

1.	DP	199.9	
2.	DP2	19.99	Connect to V+ to display required DP.
3.	DP3	1.999	
4.	TEST	Connect to V+ to display segments as illustrated. It should not be operated for more than a few seconds as the DC voltage applied to the LCD may 'burn' the display. This pin is normally at 5V below V+ and is the ground for the digital section for the meter. It can be used to power external logic up to a maximum of 1mA.	
5.	V-	Negative power supply.	
6.	V+	Positive power supply.	
7.	IN HI	Positive measuring input.	
8.	IN LO	Negative measuring input.	
9.	COM	The ground for the analogue section of the converter, held actively at 2.8V (Nom) below V+. COM must not be allowed to sink excessive current (>100µA) by connecting it directly to a higher voltage.	
10.	HOLD	Take to V+ to HOLD. Otherwise leave floating or connect to TEST for normal operation.	
11.	REF HI	Positive input for reference voltage (connect via Link 1 to REF OUT).	
12.	REF OUT	Positive output from internal reference.	

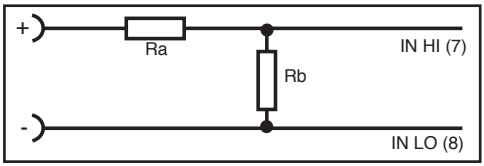


Component layout



Applications

Input scaling: Two resistors may be used to alter the full scale reading of the meter (see table).



Required F.S.D	Ra	Rb
2V	910K	100K
20V	1M	10K
200V	1M	1K
2000V	1M	100R
200µA	LINK	1K
2mA	LINK	100R
20mA	LINK	10R
200mA	LINK	1R

Analogue inputs

IN HI and IN LO are differential inputs. They respond only to the voltage across them and not their voltage with respect to the power supply. However, no input must be higher than 0.5V below V+ or lower than 1.0V above V-. If the power supply if floating with respect to the circuit being monitored, connect IN LO to AN COM for best results. If there is any danger than an input may be taken beyond the power supply rails, a series resistor MUST be fitted to limit the input current to less than 100µA.

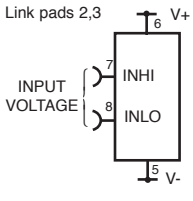
Circuit connections

The meter can be configured for any of the applications shown below. Interconnections can be made by one of two methods:

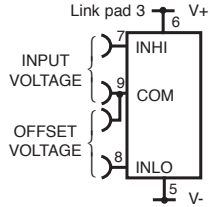
1. Via the user's conditioning PCB, terminating at the connector.
2. Bridging solder across the appropriate solder pad links provided (see circuit diagram).

Panel fitting

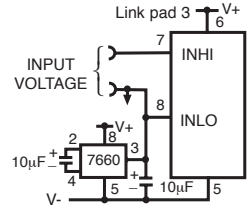
Fit the bezel to the front of the panel and then locate the meter into the bezel from behind. Alternatively the meter and bezel may be assembled before fitting into the front of the panel but care must be taken not to use excessive force.



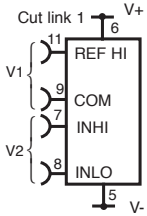
Measuring a floating voltage source of 200MV full scale.



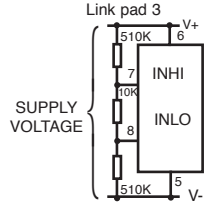
Zero display when the applied input is not zero, the offset and input voltages should be applied as shown.



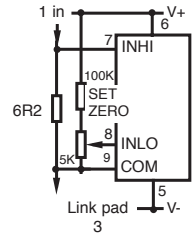
Measuring a single ended input referenced to supply.



Measuring the ratio of two voltages
Reading = 1000 V2/V1



Measuring a supply voltage
(min 7.5V, max 15V)



Measuring 4-20mA to read 0-999

The information provided in **RS** technical literature is believed to be accurate and reliable; however, RS Components assumes no responsibility for inaccuracies or omissions, or for the use of this information, and all use of such information shall be entirely at the user's own risk.
No responsibility is assumed by RS Components for any infringements of patents or other rights of third parties which may result from its use.
Specifications shown in RS Components technical literature are subject to change without notice.

© RS Components 1997