DPM 1AS-BL

3½ Digit Backlit LCD Voltmeter Module

PRODUCT DESCRIPTION

The DPM 1AS-BL features a 200mV d.c. measurement range with auto-zero and auto-polarity. Decimal points are user selectable. The DPM 1AS-BL features a negative rail generator which enables the meter to measure a signal referenced to its own power supply GND. LED backlighting ensures excellent readability under low light conditions. The design of the panel meter's housing allows the module to be easily snapped into a panel. The module's low cost means it will suit high and low volume applications. The DPM 1AS-BL is intended to replace the DPM 1, DPM 1S, DPM 1-BL and DPM 1S-BL in many applications, usually requiring only minor circuit modifications.

FEATURES

- 5.5mm (0.22") Digit Height
- 200mV d.c. Full Scale Reading
- 3.0 to 7.5V or 6.0 to 15.0V Operation
- Auto-zero and Auto-polarity
- Programmable Decimal Points
- LED Backlighting

TYPICAL APPLICATIONS

- Precision Instrumentation Systems
- Power Supply Monitoring
- Hand held instruments
- Panel-Mount Indication
- Low Power Voltage Measurement

ORDERING INFORMATION

	Stock Number
Standard Meter	**DPM 1AS-BL**

ELECTRICAL SPECIFICATIONS

Specification		Min.	Typ.	Max.	Unit
Accuracy (overall error) *			0.1		% (±1 count)
Linearity				±1	count
Sample rate			2.5		samples/sec
Operating temperature range		0		50	°C
Temperature stability			250		ppm/°C
Meter supply voltage	V+ to GND configuration	3.0	5.0	7.5	V d.c.
	V+ to V- configuration	6.0	9.0	15.0**	V d.c.
Meter supply current	V+ to GND configuration		350		µA
	V+ to V- configuration		175		µA
Backlight supply voltage		4.75	5.0	***	V d.c.
Backlight supply current @ 5V d.c.			15	30****	mA
Input leakage current (Vin = 0V)			1	10	pA

* To ensure maximum accuracy, re-calibrate periodically.
** Operation of the meter beyond the maximum supply voltage rating may cause permanent damage to the meter.
*** An external series resistor is required above 5V, see Applications.
**** This specification linearly derates to 20mA @ 50°C.

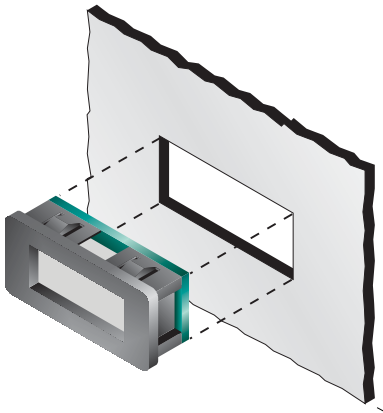
Unless otherwise noted, specifications apply at T_A=25°C, V_{supply}=5Vd.c. (f_{clock}=48kHz) and are tested with the module configured for single ended input mode.

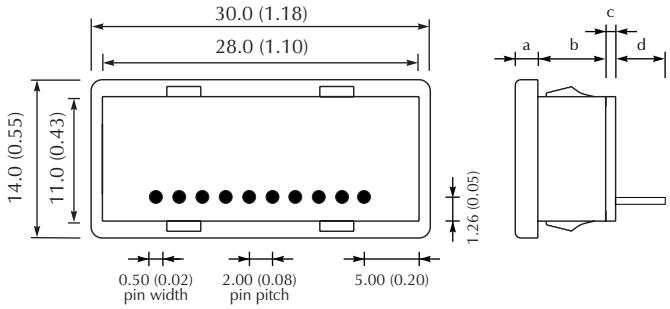
SAFETY

To comply with the Low Voltage Directive (LVD 93/68/EEC), input voltages to the module's pins must not exceed 60Vdc. The user must ensure that the incorporation of the panel meter 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).

DIMENSIONS

All dimensions in mm (inches)



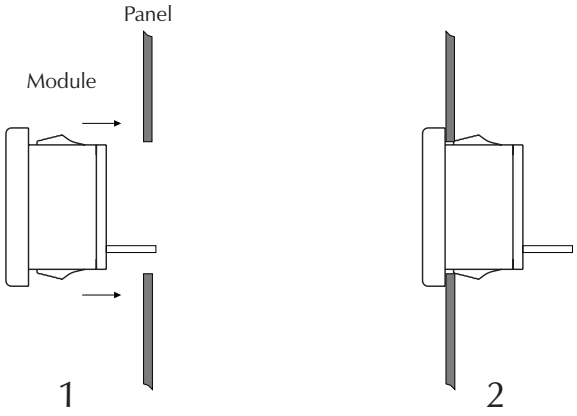


a. 2.00 (0.08)
b. 6.00 (0.24)
c. 1.60 (0.06)
d. 6.00 (0.24)

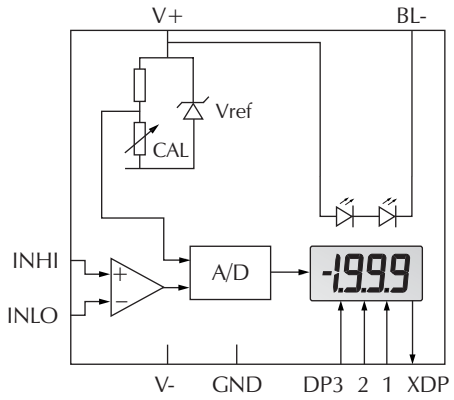
Panel cut-out: 28.4 x 11.4
(1.12 x 0.45)

Panel thickness: 1.0 - 2.5
(0.04 - 0.10)

PANEL FITTING



FUNCTIONAL BLOCK DIAGRAM



PIN CONFIGURATION (rear view)