

This low cost, compact indicator is ideally suited for low or high volume applications. SP 5-1200-BL is an easy to mount LCD digital panel meter. The module features a 4 to 25V measurement range with 100mV resolution and is powered from the signal it is measuring. Only valid readings are displayed; the module indicates "LO" at voltages below 4V and "HI" at voltages above 25V. Screw terminals allow for quick and easy connection. The module is panel mounted using the metal clip provided and a rubber seal is included, providing splashproof protection for the unit when fitted to the meter during installation.

- 🔌 2-Wire Operation (excluding backlighting)
- 🔌 4 to 25V d.c. Full Scale Reading
- 🔌 18mm / 0.7" LCD Digit Height
- 🔌 Reverse Polarity Protection
- 🔌 No Calibration Required (pre-calibrated for use)
- 🔌 Splashproof
- 🔌 LED Backlighting (via separate supply)
- 🔌 Screw Terminal Connections



## ELECTRICAL SPECIFICATIONS

Specification	Min.	Typ.	Max.	Unit
Accuracy (overall error)		0.2		V ( $\pm 1$ count)
Linearity			$\pm 1$	count
Valid displayed reading*	4.0		25.0	V d.c.
Resolution		100		mV d.c.
Sample rate		3		samples/sec
Operating temperature range	0		50	$^{\circ}$ C
Supply voltage	Meter	3	50	V d.c.
	Backlighting		5	V d.c.
Supply current (@9V d.c.)	Meter	1.5		mA
	Backlighting		50	mA

\* At voltages below 4.0V d.c., the LCD will display *LO* and will ultimately go blank.  
 At Voltages in excess of 25.0V d.c., the LCD will display *HI*.  
 Do NOT exceed 50V d.c., as this may damage the meter.  
 The module includes reverse polarity protection up to 30V for up to 30 seconds.  
 Operation and accuracy at voltages above 25.0V or below 4.0V are not specified.

## SAFETY

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

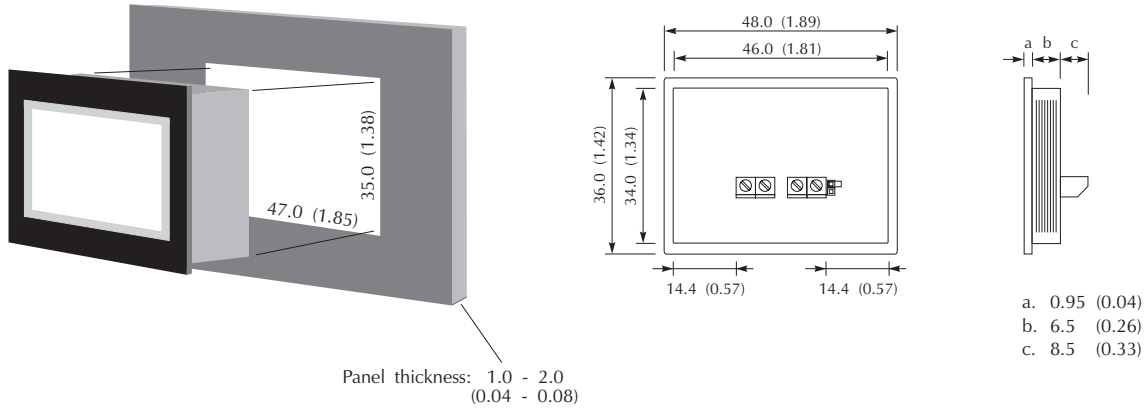
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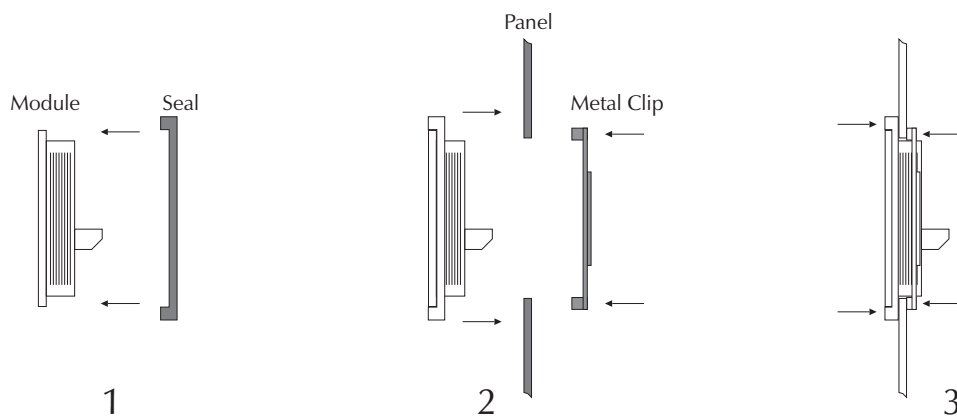
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### DIMENSIONS

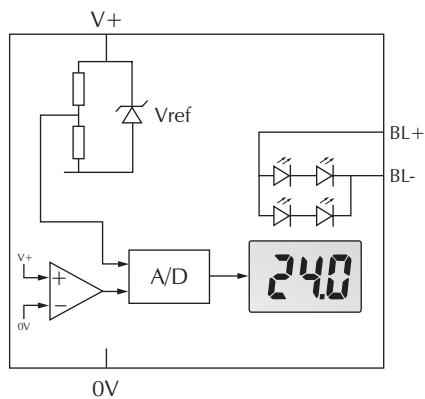
All dimensions in mm (inches)



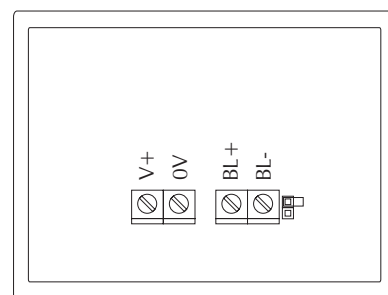
### PANEL FITTING



### FUNCTIONAL BLOCK DIAGRAM



### CONNECTIONS (rear view)



## SCREW TERMINAL FUNCTIONS

V+ Positive power supply to the meter/voltage being measured.  
 0V 0V power supply to the meter/voltage being measured.

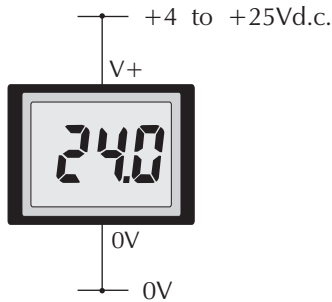
BL+ Positive power supply to the LED backlighting.  
 BL- Negative power supply to the LED backlighting.

When the jumper link is placed over both pins, located next to the screw terminals, this connects the 0V of the LED backlighting to the 0V of the signal being measured. This allows for 3-wire operation of the module. This connection should only be made if both power supplies can share a common 0V line.

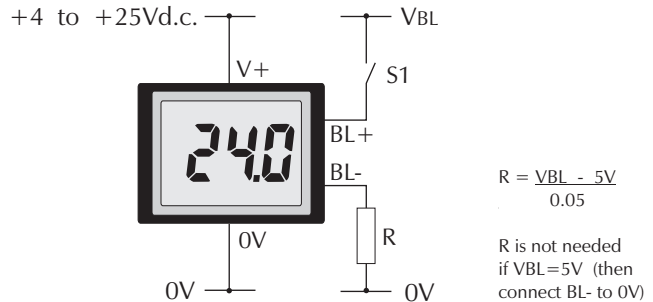
## SCALING

This module cannot be re-scaled for other voltage or current scales.

## APPLICATIONS

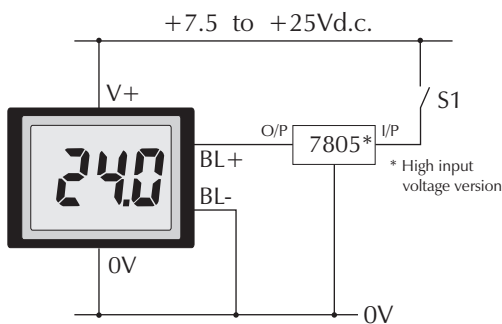


Measuring a voltage in the range 4 to 25V d.c.



Powering the LED backlighting from a separate supply. Close switch S1 to turn on the backlighting.

Note: - add a series resistor R if the backlighting supply voltage is higher than 5V d.c.



Powering the LED backlighting from the voltage being measured. The additional load of the backlighting on the voltage being measured may cause this voltage to drop.

The voltage regulator may require a heatsink to limit its temperature rise. Ensure that the maximum input specification of the voltage regulator considerably exceeds the maximum peak voltage that can be experienced on the supply line being monitored.

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