DPM 720

$3^3/_4$ Digit Battery Powered LCD Panel Meter

The DPM 720 is a micropower LCD digital voltmeter with 12.7mm (0.5“) digit height and -150 to + 250mV full scale reading, giving a resolution of 0.1mV. The module is powered from its own integral 3.6V Lithium battery and requires no external power to operate. A 5 year battery life makes this module ideal for those applications where fully isolated, fully floating measurements are required. Connection is via screw terminals. The DPM 720 features an integral carrier/window, offering protection against ingress of dirt and allowing it to be easily mounted in a range of standard hand held cases. The stylish bezel gives the whole a professional appearance.

- No power supply needed, internal battery
- 5 year battery life
- 12.7mm (0.5“) digit height, annunciators
- Ideal for isolated measurements
- Protection against ingress of dirt
- Supplied with bezel
- Screw Terminal Connections

ENCLOSURE SOURCING GUIDE

OKW	Type M and P
VERONEX	Size 3

BATTERY SOURCING GUIDE

MAXELL	ER 3S TC
SAFT	SLS3
SONNENSCHEIN	SL-750/S
TADIRAN	½AA/S

⚠ WARNING ⚠

Handle Lithium batteries carefully - observe warnings on battery casing.
Dispose of in accordance with local regulations.

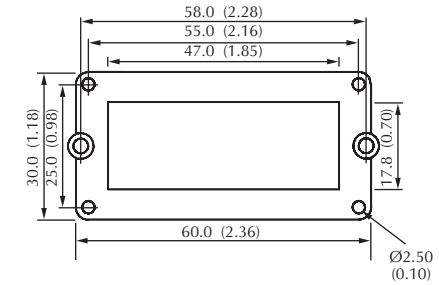
Meter with 3.6V battery				Stock Number DPM 720
Specification	**Min.**	**Typ.**	**Max.**	**Unit**
Accuracy (overall error)*		0.25		% (±2 counts)
Linearity			±1	count
Full scale reading	-150.0		250.0	mV
Resolution		0.1		mV
Sample rate		1		sample/sec
Operating temperature range	0		50	°C
Temperature stability		200		ppm/°C
Input leakage current (Vin= 0V)			15	nA
Supply voltage (via V+ and V-)	2.9	3.6	5	V d.c.

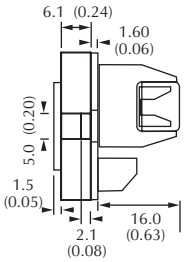
* To ensure maximum accuracy, re-calibrate periodically.

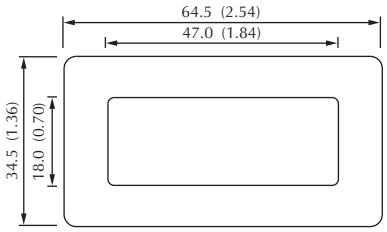
SAFETY

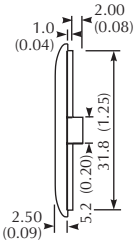
To comply with the Low Voltage Directive (LVD 93/68/EEC), input voltages to the module’s pins must not exceed 60V d.c. If voltages to the measuring inputs do exceed 60V d.c., then fit scaling resistors externally to the module. The user must ensure that the incorporation of the DPM into the user’s equipment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

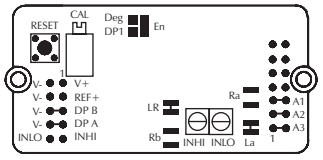
DIMENSIONS All dimensions in mm (inches)











REAR VIEW

PANEL FITTING

Fit the bezel to the front of the panel, then locate the meter to the bezel from behind the panel. Using the screws provided, secure the two plastic spring clips to the rear of the meter. The meter is designed to fit directly onto OKW Type M, P and Veronex size 3 enclosures.

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PIN FUNCTIONS

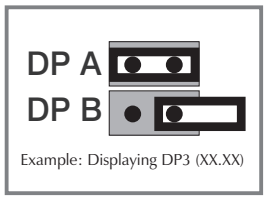
IN HI Positive measuring input. ┐ Do not leave floating.
IN LO Negative measuring input. ┘ Overrange is indicated by ERROR.
REF HI Positive input for reference voltage, referenced to V-.
DP A Selector pin for Decimal Points (see table).
DP B Selector pin for Decimal Points (see table).
V+ Positive supply input. Used to supply power to the module when the module's internal battery is not fitted.
V- Negative supply input. Used to supply power to the module when the module's internal battery is not fitted.

DO NOT APPLY AN EXTERNAL SUPPLY VOLTAGE ACROSS V+ and V- WITH BATTERY IN PLACE, AS THIS MAY CAUSE THE BATTERY TO EXPLODE.

When the module's battery is used to power external circuitry via the V+ and V- pins, then battery life will be reduced. The battery is rated for low current applications. If in doubt about battery life, consult a Lascar Applications Engineer. Any external power supply must be fully floating with respect to any other connections to the meter.

PIN HEADER LINKS

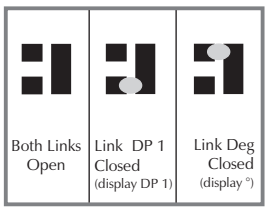
In order to quickly and easily select the desired annunciator or decimal point (DP), the meter has several on-board pin header links. They are designed to be easily closed via the link provided. To display the desired DP or annunciator, make links as indicated in the tables.



Example: Displaying DP3 (XX.XX)

SOLDER LINKS

Solder links are used to display Decimal Point 1 (XXXX.0 or XXXX.5) and the ° annunciator.



SCALING

Two resistors Ra and Rb may be fitted 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 CAL potentiometer on the rear of the module.

Required F.S.R.		Ra	Rb	Resolution
2.5V	Note	91k	10k	1mV
25V	Note	100k	1k	10mV
250V	Note	1M	1k	100mV
2.5kV	Note	10M	1k	1V
250µA		0R	1k	0.1µA
2.5mA		0R	100R	1µA
25mA		0R	10R	10µA
250mA		0R	1R	100µA

NOTE: Ensure that Link La across Ra is open for Voltage measurement.

When fitting sealing resistors Ra and Rb on board the PCB, ensure that only the 10-way DIL header pins are used for INHI and INLO connections.

ANNUNCIATORS

The correct annunciator is displayed by making one or more links on the module.

A1	A2	A3	Displayed Symbol	
Open	Open	Closed	Trailing Zero	0
Open	Closed	Closed	Degrees Fahrenheit	F
Open	Closed	Open	Degrees Centigrade	C
Closed	Closed	Open	Current	A
Closed	Open	Open	Voltage	V
Closed	Open	Closed	Trailing Five	5

DECIMAL POINTS

The correct decimal point is displayed by making one or more links on the module.

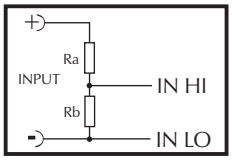
To display	Link configuration
DP 2 (XXX.X)	DP A to V- closed, DP B to V- closed
DP 3 (XX.XX)	DP A to V- closed, DP B to V- open
DP 4 (X.XXX)	DP A to V- open, DP B to V- closed

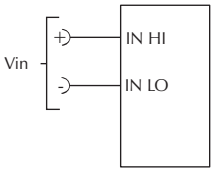
VARIOUS OPERATING MODES

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.

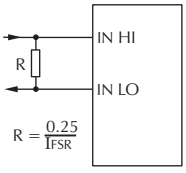
SCALING

A potential divider may be used to alter the full scale reading (F.S.R.) of the meter - see table. The meter will have to be re-calibrated by adjusting the CAL potentiometer at the rear of the module.

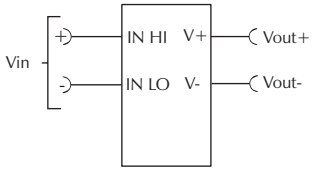




Measuring a floating voltage source.



Measuring current.



Using the internal battery to power external applications.

WARNING: **Do NOT apply power to these terminals with the lithium battery in place, as this may cause the battery to explode.**

This sensitive instrument requires that, for optimum performance, the input leads are as short as possible.