

DPM50 LOW AIR PRESSURE SENSOR

- Ultra low differential pressure measurement
- Traceable Calibration Certificate
- Excellent repeatability
- Self compensating zero
- Climate chamber compensated
- Long term span stability
- Ultra low hysteresis
- Unaffected by humidity
- Factory logged burn in time
- Transducer and PCB is made by CMR
- After Sales Service is provided by CMR
- 24 month warranty
- 20 Years field application experience

GENERAL DESCRIPTION

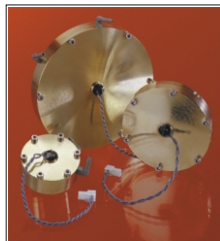
The DPM50 is a Panel mount pressure transmitter which provides an output signal of 0...10V or 4...20mA. If dual output is required, the Output Terminals can be configured to provide both 0...10V and 4...20mA. Other signal outputs can be supplied on request. A built-in LED display shows the actual pressure in Pa or the Units it is configured to. Alarm contacts which are configurable are standard.

The 4...20mA is produced by the DPM50 and can drive a number of devices. Standard pressure ranges are available from 0-25 Pa or +/-25 Pa up to 0-10000 Pa. Larger ranges up to 1 Bar on request..

Power supplies in DC or AC are standard.

THE TRANSDUCER

The transducer is manufactured by CMR and consists of precision engineered components, high quality metals and SMD electronics. The principle of the transducer is the measurement of the displacement of the linear diaphragm by means of a push and pull variable reluctance transducer which is not affected by Humidity, hence it can be used in many Industrial and Chemical applications even using high concentration of Formaldehyde.



CMR Transducer

There are no mechanical connections to any of the sensing coils and the diaphragm, hence extreme low pressures can be measured at excellent repeatability and minimal hysteresis. The movement of the diaphragm is so small that no air volume is required to measure the air pressures over a distance of 200m.

The zero drift is uniquely minimized by the measuring coils which provide excellent self compensation. One coil measures positive and the other negative drift and therefore balances any excessive drift between two tolerance limits in its life cycle. The CMR Transducer has a proven track record of over 20 years. Finally, all CMR DPM50's are temperature compensated in a computerised climate chamber and go through an ageing burn in cycle.



CMR Climate Chamber



DPM50 panel mount with LED and Alarms

LED DISPLAY

A 4 digit LED Display indicates the actual pressure in Pa. The LED display is fitted into the front of the DPM50. It is intended for internal panel mount use. All adjustments can be made from the front.



DPM50 Front operating panel

The display can be smoothed by means of a potentiometer on the front of the DPM50 independently of the output signal of the sensor.

Tube nipples and a removable terminal plug are on the rear of the DPM50.



DPM50 Rear Connections

DISPLAY SCALING

The display is factory scaled during manufacture. The display can be scaled by the user to display any other engineering units, by selecting the piano switch options.

SIGNAL DAMPENING

The output signal can be smoothed by means of a potentiometer on the front of the DPM50. The dampening acts on the 0..10V, 4...20 mA and the Display simultaneously.

REMOTE DISPLAY AND ALARM PLATE

A remote LCD or LED can be connected to copy the information to the local operators by simply connecting it to the 0-10V Signal output terminal.

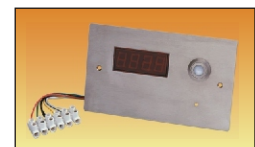
ALARM CONTACTS

The DPM50 is supplied complete with two alarm change over relays. The relays can be configured in three modes i.e

Low/high alarm relay and repeater low alarm relay and high alarm relay
Light relay, buzzer relay and mute

Both relays have adjustable timers and are latching or self resetting. If the Mute Version is selected, the output signal is either 0-10V or 4-20mA.

Remote Alarm Plates are optional.



Remote Alarm LED Plate



Air Probe and Alarm Plate

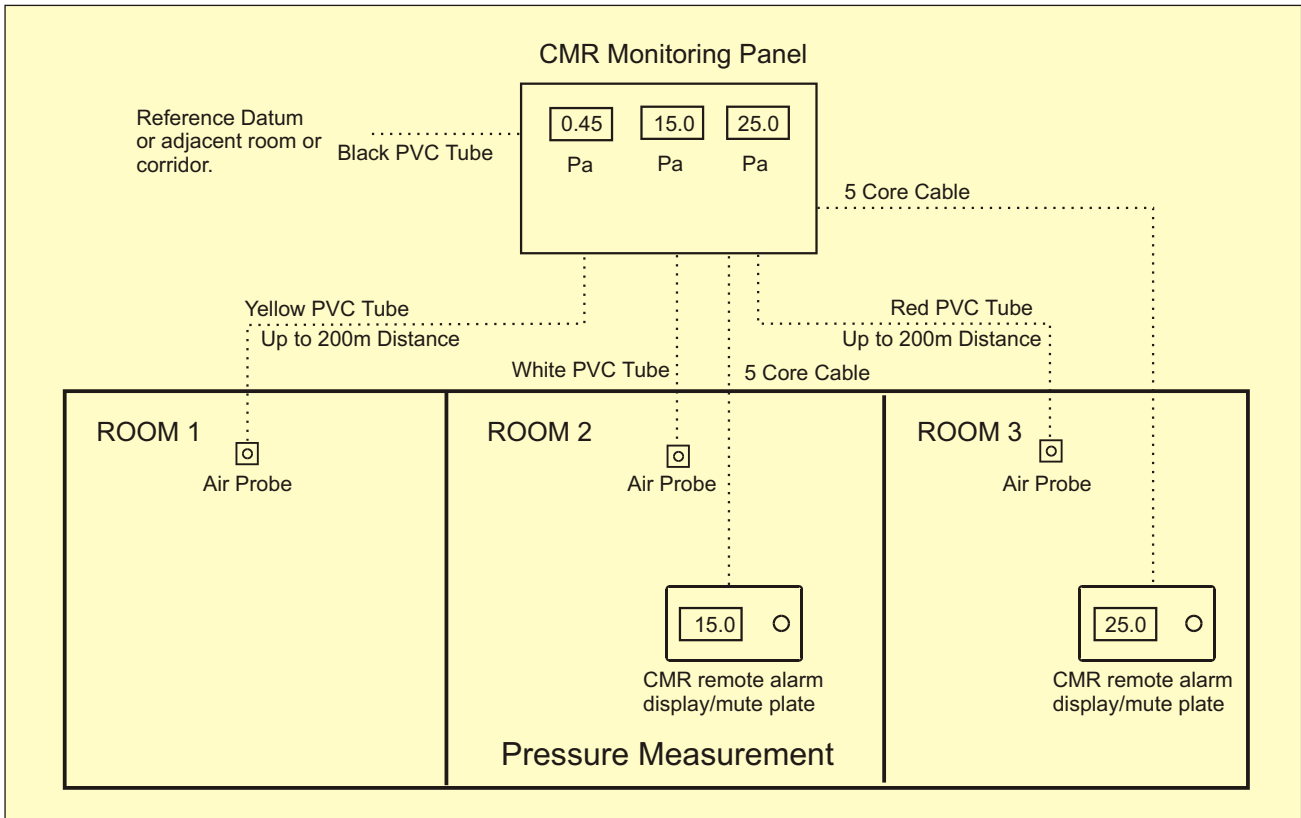
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DPM50 PRESSURE MONITORING SYSTEM



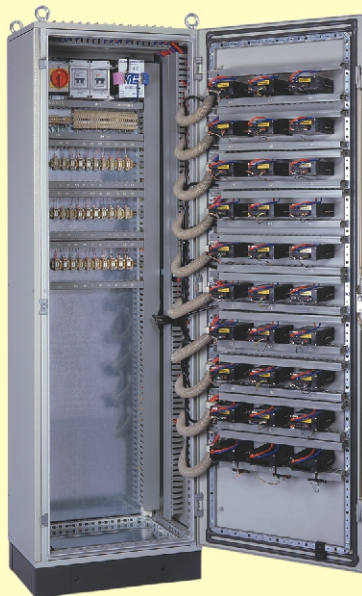
The CMR Pressure Monitoring Panel can have up to 30 DPM50 instruments fitted into the front door. The Power Supply and terminations are fitted on the back plate. The tube connections are on the top of the panel. All identification labels are fitted to the users requirement. The complete panel is factory tested and all instruments come with calibration certificates traceable to National

Standards. The CMR PVC Tube comes in different colours and can be run for over two hundred metres to the various rooms. The panel can therefore be located in a plant room area, which makes calibration very easy at the required intervals. Remote displays as well as alarm annunciators can be fitted.

TYPICAL PRESSURE/VELOCITY MONITORING PANEL FITTED WITH DPM50 OR DPM55



Front view of the CMR Panel. Up to 30 DPM50's are fitted.



Internal view of the Panel. An isolator, fuses, power supply and computer interface terminals are fitted on the back plate



Top of the panel with all tube connections nipples, cable entry glands and labeling.



Rear of the panel door with the DPM50's fitted. All wiring and tubing is properly secured in cable trays. Designed for easy access during calibration in future.

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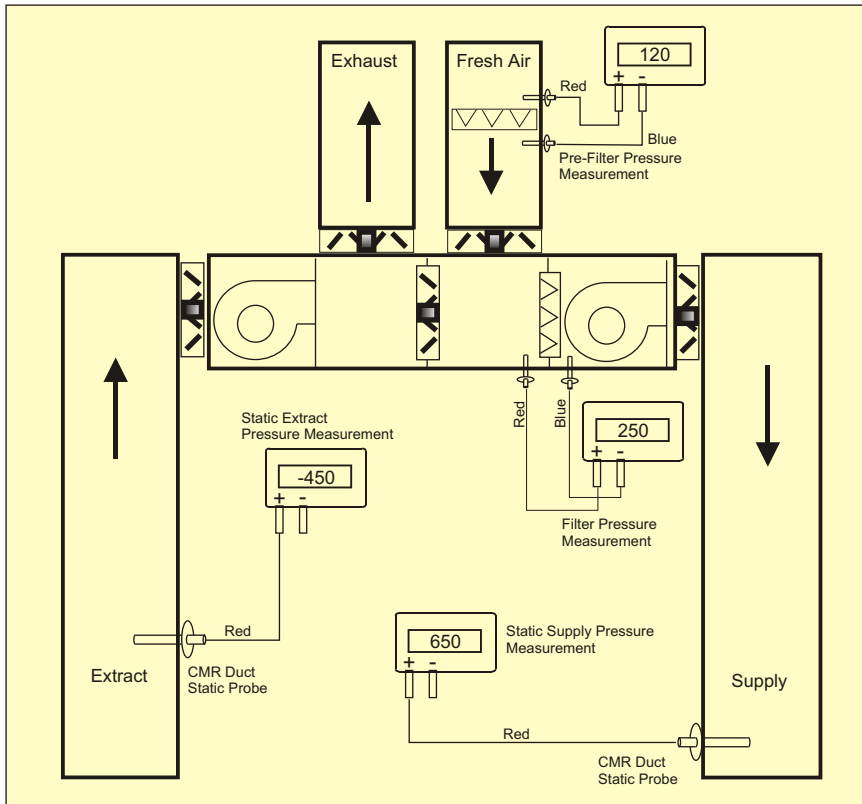
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DPM50 AHU PRESSURE APPLICATIONS

Typical Air Handling Unit Pressure Measurements



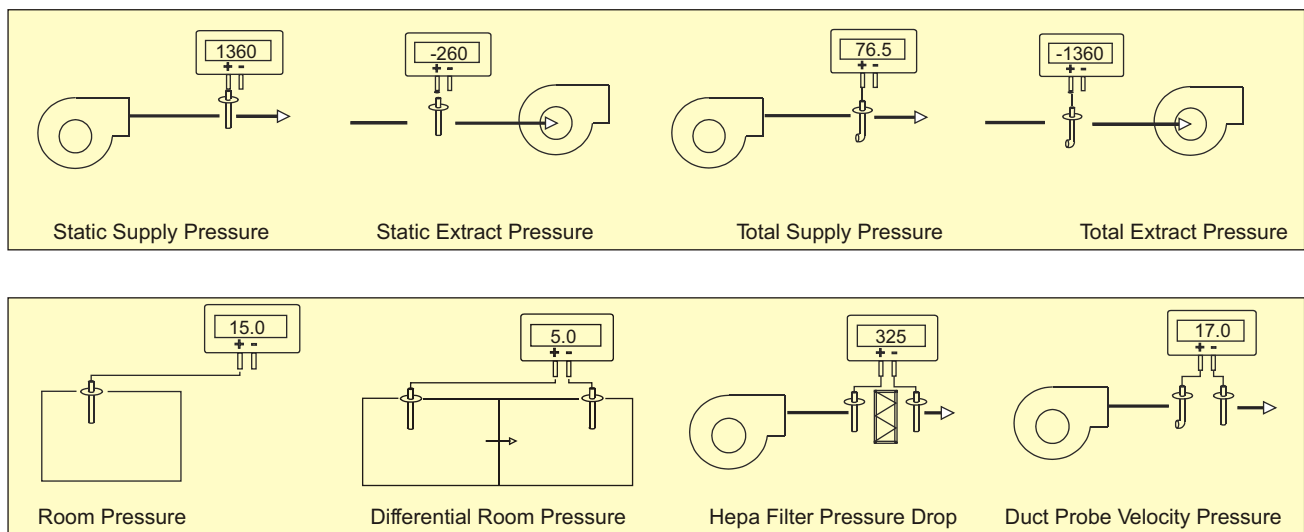
The above schematic shows a practical application in Supply and Extract Air-Handling Unit Control Systems, where Supply and Extract Duct Pressures as well as Filter Pressures must be measured.

The CMR DPM50 transmitters can be mounted into a central control panel and up to 200m Tube can be run from the duct sensing point to the panel without losing its accuracy.

The DPM50 have also built in alarm relays, timers and mute facilities and can be scaled to the users requirements.

The DPM50 is ideal for panel mount and are most desirable in plant rooms where operators want to see the performance of the air handling unit. The Transmitters are maintenance-free and long term accurate and come complete with traceable Calibration Certificates to National Standards.

TYPICAL PRESSURE APPLICATIONS



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DPM50 FRONT CONTROL PANEL

FUNCTION SETTINGS

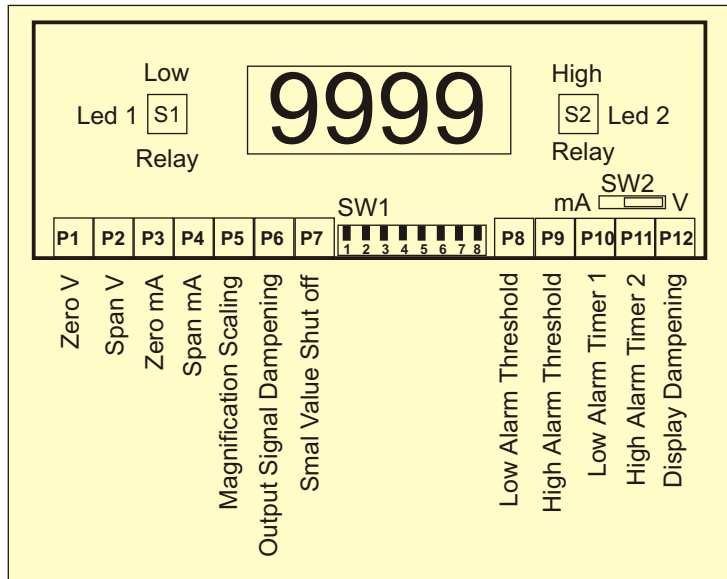
The DPM50 Pressure Sensor has all function controls and adjustments underneath the front window.

The large LED display is calibrated for life and hence it is used to display the actual measured value and by adjusting SW1 to the positions indicated below, the display can show the following values:

- Measurement in Pa, kPa, mBar, mm H₂O, Inches WG.
- Measurement of the Sensor Volt Signal Output 0-10V
- Indication of the Low Alarm Set point from P8
- Indication of the high Alarm Set Point from P9
- Indication of the Low Alarm Timer1 in 99.9s from P10
- Indication of the High Alarm Timer2 in 99.9s from P11

The rest of the SW1 switches deal with the Alarm Relays and LED1 and LED2 indicators and timer functions.

The output on Terminal 1 and 2 is normally set to 0-10V and Terminal 3 and 2 has normally 4-20mA unless the DPM50 has the Alarm Mute facility then Terminal 3 is used as Mute input. Changing the SW2 Switch Position the output can be changed to 4-20mA on Terminal 1 and 2.



SW1 PIANO SWITCH SETTING

The SW1 switch is vital for the correct adjustments of all Potentiometers. The first 1 to 4 switches are used for the display functions and by setting these to the positions as indicated the display shall show the desired values. The Alternate 1, 2, 3, 4 scaling is not used as standard and shall be programmed to suit the users requirements on request at the time of ordering and is reflected in the part number.

<p>1 UP DOWN <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>2 UP DOWN <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>3 UP DOWN <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>4 UP DOWN <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>	<p>Pressure Display Normal Scaling Pa in linear or m/s in square root</p>	<p>5 UP DOWN <input type="checkbox"/> <input type="checkbox"/></p> <p>5 UP DOWN <input type="checkbox"/> <input type="checkbox"/></p> <p>6 UP DOWN <input type="checkbox"/> <input type="checkbox"/></p> <p>6 UP DOWN <input type="checkbox"/> <input type="checkbox"/></p> <p>7 UP DOWN <input type="checkbox"/> <input type="checkbox"/></p> <p>7 UP DOWN <input type="checkbox"/> <input type="checkbox"/></p> <p>8 UP DOWN <input type="checkbox"/> <input type="checkbox"/></p> <p>8 UP DOWN <input type="checkbox"/> <input type="checkbox"/></p>	<p>Linear Pressure Output Signal Indicates Pressure without square root extraction</p> <p>Square Rooted Output Signal indicates the velocity pressure converted to m/s. See DPM55 version for more information.</p> <p>Timer 1 starts S1 and then Timer2 starts S2 With the Mute Version Timer 1 turns on both S1 and S2 and the mute Input shall cancel S2. Auto Reset when back within limits</p> <p>Low Alarm starts Timer1 and S1 High Alarm starts Timer2 and S2 Auto Reset when back within limits With the Mute Version, the Mute must be activated to Reset S1 and S2.</p> <p>Relays normally De-Energised and shall be energised when in Alarm status</p> <p>Relays normally Energised and shall be de-energised when in Alarm status</p> <p>Alarm LED's are normally off and shall switch on in alarm status</p> <p>Alarm LED's are normally on and shall switch off in alarm status</p>
<p>1 UP DOWN <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>2 UP DOWN <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>3 UP DOWN <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>4 UP DOWN <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>	<p>Alternate Scaling 1 kPa Indicates invalid in square root mode.</p> <p>Alternate Scaling 2 mBar Indicates invalid in square root mode.</p> <p>Alternate Scaling 3 mmH₂O Indicates invalid in square root mode.</p> <p>Alternate Scaling 4 sets display to reduced resolution. i.e. 10.0Pa to 10Pa.</p> <p>Alternate Scaling 5 inches H₂O Indicates invalid in square root mode.</p>		
<p>1 UP DOWN <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>2 UP DOWN <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>3 UP DOWN <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>4 UP DOWN <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>	<p>Low Alarm Display in Volts 0-9.99V displays value of P8</p> <p>High Alarm Display in Volts 0-9.99V displays value of P9</p> <p>Timer 1 Low Alarm (S1) 0-99.9 s displays value of P10</p> <p>Timer 2 High Alarm (S2) 0-99.9 s displays value of P11</p> <p>Display Output Voltage 0-9.99V displays value of V on Term 1 & 2</p>		

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DPM50 OPERATING INSTRUCTIONS

DPM50 PRESSURE MEASUREMENT INSTRUMENT

CALIBRATION INSTRUCTIONS

The DPM50's electronic is easily accessible by removing the front red lens. It is important to know that the DPM50's calibration is based on 0...10V, which means, all calibrations must be carried out in 0...10V first. The mA circuit is factory calibrated and P3 and P4 should normally not be field adjusted.

The standard DPM50 is factory set to have an output signal of 0-10V on terminal 1(+) and 2(-). SW2 is set to V position. A mA output signal is on Terminal 3(+) and 2(-) except with the mute version.

The Mute Version has no dual signal output and therefore the SW2 switch can be used to either switch 0-10V or 4-20 mA to Terminal 1(+) and 2(-). The Mute switch would then be connected to 2(-) and 3. Once the Alarm comes on, a light can be connected to S1 and a Buzzer to S2. By shorting out 2 and 3 the Buzzer Relay can be switched to turn the Buzzer off.

When calibrating the DPM50 it is essential to know that the +/- range of sensors i.e. -100Pa...+100Pa = 0...10V operate from 5.00V = 0Pa to 0V = -100Pa and from 5V = 0Pa to 10V = +100Pa. The zero Pa voltage output is therefore 5V or 12mA.

The Small Value shut off (P7) must always be fully anti clockwise and the Scaling Potentiometer (P5) must always be fully clockwise when calibrating the DPM50.

ZERO ADJUSTMENT

Let the DPM50 run for 24hours to settle before attempting to adjust the Zero. The zero is normally factory set.

P1 sets the Zero of the Sensor. Turn the P6 and P12 Potentiometer completely anti clockwise to remove any dampening. Remove all Tubes and let the Sensor settle. Switch SW1 switch 5 to UP and turn P5 fully clockwise with no scaling.

If the Voltmeter is connected to 1(+) and 2 (-) and the SW2 is in V position, adjust P1 until 0.00V or 0 Pa is achieved.

If the mA Meter is connected to 1(+) and 2(-) and the SW2 is in mA position, adjust P1 until 4.00mA or 0 Pa is achieved.

When calibrating mA zero set the SW1 to display output Volts on the LED display to balance Volts and mA during the calibration. If the 0.00 V Calibration displayed in V on the LED display is correct but the mA Meter connected to 1(+) and 2(-) with SW2 set to mA is not at 4.00mA only then adjust P3 to achieve 4.00 mA.

SPAN ADJUSTMENT

Check the Zero Adjustment above first. Use any of the CMR Calibrators and pump up the positive nipple of the DPM50 to 75% of Full Scale as indicated on the label of the DPM50 i.e. a 100Pa Sensor would be pumped up to 75.0 Pa.

If the Voltmeter is connected to 1(+) and 2(-) and the SW2 is in V position, adjust P2 until 7.50V or 75.0 Pa is achieved.

If the mA Meter is connected to 1(+) and 2(-) and the SW2 is in mA position, adjust P2 until 16.00mA or 75.0 Pa is achieved.

When calibrating mA span set the SW1 to display output Volts on the LED display to balance Volts and mA during the calibration. If the 7.50 V Calibration displayed in V on the LED display is correct but the mA Meter connected to 1(+) and 2(-) with SW2 set to mA is not at 16.00mA only then adjust P4 to achieve 16.00 mA.

Repeat the Zero and Span adjustments a few times

LINEARITY CHECK

Use any CMR Calibrator and pump up the positive nipple of the DPM50 to 25% of Full Scale as indicated on the label of the DPM50 i.e. a 100Pa Sensor would be pumped up to 25.0Pa.

25% = 25 Pa or 2.50V - 8.00mA
50 % = 50 Pa or 5.00V - 12.00mA .
100% = 100 Pa or 10.00V - 20.00mA

The Linearity is the accuracy of the Sensor less any Calibrator deviation:

Example:

Zero of Sensor = 0.00 V Zero of Calibrator = 0.0Pa
Span of Sensor = 7.55 V Span of Calibrator = 75.5Pa
The Sensor is 100% linear compared with the Calibrator.

DAMPENING OF OUTPUT SIGNAL

Adjust P6 to clockwise for signal output dampening. This adjustment is useful in monitoring applications where the output signal must be smoothed to eliminate fluctuations in the digital data input channels of Scada Monitoring or BMS Computer Systems. During Calibration of the DPM50 set P6 to anti-clockwise. P6 affects the Display as well.

DAMPENING OF THE DISPLAY

Adjust P12 to clockwise for display dampening. This adjustment is useful in turbulent air where the output signal must be fast but the display slow. During Calibration of the DPM50 set P12 to anti-clockwise. P12 does not affect the output signal.

ALARM THRESHOLD

Set SW1 switch to Low Alarm Display or High Alarm Display and adjust P8 or P9 to the desired alarm Levels. 0-100 Pa = 0-10V. If the low Alarm is to be set to 25.0 Pa set P8 to display 2.50V on the Display. If the high Alarm is to be set to 75.0 Pa adjust P9 to display 7.50V on the display.

ALARM TIMERS

Set SW1 switch to Low Timer Display or High Timer Display and adjust P10 or P11 to the desired Time Levels. The display shows from 0 to 99.9s. If the low Timer is to be set to 10s set P10 to display 10.0 on the Display. If the high Timer is to be set to 75s adjust P11 to display 75.0 on the display.

ALARM OPERATION SW1 - SW6 IN UP POSITION

Press SW1 switch 6 to up position and if the DPM50 is not a Mute Version then the Low or High Threshold starts Timer1 and after time out switches S1, and starts Timer2 and after time out switches S2. With The Mute Version, the Timer1 starts and after time out both S1 and S2 switch. The Mute input cancels S2. The Alarm auto resets itself if measured value is back within limits.

ALARM OPERATION SW1 - SW6 IN DOWN POSITION

Press SW1 switch 6 to down position and if the DPM50 is not a Mute Version then the Low Threshold starts Timer1 and the High Threshold starts Timer2. After time out of Timer1, S1 switches on the low alarm and after time out of Timer2, S2 switches on the high alarm. The Alarm auto resets itself if measured value is back within limits.

With The Mute Version, the function is identical to the switch 6 in UP position with the exception that the Mute has to be activated to reset the alarm relays when the measured value is back within limits.

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DPM50 ORDER DESCRIPTION

DPM50 PRESSURE MEASUREMENT INSTRUMENT

GENERAL

CMR manufactures a large range of DPM50 panel mount pressure sensors to suit many applications. Because of the variety of pressure ranges, output signals and power supplies it has been necessary to design an easy to use selection table for anybody to make up a DPM50 specification to satisfy a requirement. You will find all specifications available with the associated ordering Code on the DPM50 Pressure Sensor Selection Table.

DPM50 PART NUMBER

The DPM50 Part Number starts with the selection of the enclosure which depends on the Tube connections. In the Example we have chosen Code '30A' which is a standard DPM50 enclosure with 6 mm barbed nipples to fit CMR PVC Tube. The Part Number therefore starts with '30A'.

Smaller straight nipples with a 3 mm O/D to fit the small bore CMR Silicone Tube makes Panel installations easier. This would have the Code '30B'.

NEGATIVE PRESSURE RANGE

The Negative Range is specified as (-) Pa. If the application requires to measure a negative pressure against a reference, i.e. a room has to be at negative pressure compared with the corridor then the room has to be connected to the Red or (+) nipple. The blue (-) nipple shall be connected to the reference in this case the corridor.

The negative room pressure shall suck on the red (+) nipple and the DPM50 produces an output signal equivalent of the negative pressure measured.

In the Example we have chosen -25 Pa which has the Code '010'. The Part Number extends to '30A 010'.

If the DPM50 must only measure in the positive Range i.e. 0-25Pa than the Negative Range will always be selected as 0Pa and the Code is always '000'.

POSITIVE PRESSURE RANGE

Now you have to determine, if you need to measure Positive Pressure. It is common to identify if the Room has gone into Positive Pressure and it is necessary to measure to which extent it has gone to positive. Therefore, it is suggested to use +25 Pa as the Positive Pressure Range. Please note that zero Pa Pressure is now in the middle of the Sensor Range.

This means the DPM50 can measure from -25 Pa to 0 and to +25 Pa. The Positive Pressure Range +25 Pa has the Code '010'. The Part Number extends to '30A 010 010'.

OUTPUT SIGNAL

The Industry Standard for Output Signals is 0...10V or 4...20mA, but other signals can be supplied by CMR on request and are listed in the Selection Table. In the Example, we have chosen 0...10 V which has the Code 'A'.

The Part Number extends to '30A 010 010 A'.

If 0...10V is the Output Signal for -25 Pa to +25 Pa than 5 V is 0 Pa. from 5V to 0V the DPM50 measures from 0 Pa to -25 Pa i.e. -12.5 Pa would be 2.5V.

From 5V to 10V the DPM50 would measure positive Pressure from 0 Pa to +25 Pa i.e. +12.5 Pa would be 7.5V.

It is standard to use equal ranges -25 Pa to +25 Pa rather than -25 Pa to +50 Pa but CMR can provide any offset.

POWER SUPPLY

The Industry Standard is 24VDC or 24VAC. 110VAC and 230VAC are less used today for safety and EMC protection reasons. The 15VDC version has no relays and no mA output and is not often used.

We have chosen 24VDC which has the Code '2'. The Part Number extends to '30A 010 010 A 2'.

ALARM RELAY SETTINGS

The DPM50 has two alarm relays which can be configured to do several functions. The relays can be operated as a low or high alarm having a threshold and a timer for each. This can be factory set by switching one of the Piano Switches to achieve Lo/Hi and the Code is 'A'.

Alternatively, the threshold could trigger one relay first and after a time out the second. This can be selected by a piano switch to achieve Lo/Hi + R and the Code is 'B'.

If an alarm function is required which switches a light and a buzzer and the buzzer must be muted, then a solder link has to be made internally. The Mute would be accessible via Terminal 3. The selection would be Lo/Hi Mute and the Code is 'C'.

We have chosen the Code 'A'.

The Part Number extends to '30A 010 010 A 2 A'.

SCALED UNITS

The 4 digit LED is factory scaled to suit the application i.e. -25 Pa to +25 Pa which means it is scaled in Pa (Pascals). If the Pa pressure is larger than the display can show, the display shall be configured to mBar..

By switching Piano Switches the engineering units can be changed to mBar which is Code '2' or kPa which is Code '3' or mmH2O which is Code '4' or inches WG which is Code '5'.

We have therefore chosen the Code '1'.

The Part Number extends to '30A 010 010 A 2 A 1'.

DECIMAL POINTS

The 4 digit LED can only display 1999 or 199.9 or 19.99 or 1.999 all depending on the decimal point setting..

It is essential to know how the pressure should be indicated on the LED. In the example we have chosen one decimal point which has the Code 'B' and the display should indicate -25.0 to +25.0 Pa. The Part Number extends to '30A 010 010 A 2 A 1 B'.

LINEARITY

The DPM50 is available in two Linearity Grades 0.5% or 1%. In the Example we have chosen 0.5% which has Code 'A'.

The Part Number extends to '30A 010 010 A 2 A 1 B A'.

TRACEABLE CALIBRATION CERTIFICATE

The DPM50 can be supplied with a Traceable Calibration Certificate to National Standard which has the Code 'T'.

In the Example we have used Code 'T'.

The Part Number extends to '30A 010 010 A 2 A 1 B A T'.

FINAL PART NUMBER

The Part Number to order is 30A010010A2A1BAT.

Now try and select your own DPM50 using the DPM50 Order Selection Table.

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DPM50 ORDER SELECTION TABLE

The selection Table has been prepared to make ordering easy. Each Column contains a number of different options which are available and a Part Number can be established by yourself depending on your specific requirements. The Example Part Number 30A 010 010 A 2 A 1 B A T which is printed above the Selection Table can be identified as being a DPM50 Pressure Sensor having 6mm barbed tube connectors with a Negative Range of -25Pa and a Positive Range of +25 Pa, with an Output Signal of 0..10V which would mean in this case 0 Pa is 5V. The Power Supply is 24VDC. The DPM50 is set up as a Low and High Alarm Unit. The display is scaled in Pa (Pascals). The Decimal Points are adjusted to 1 which indicates from -25.0 Pa to +25.0 Pa. The Linearity is 0.5% and it comes with a traceable Calibration Certificate to National Standards.

EXAMPLE PART NUMBER SELECTION (The code after the (=) sign is used i.e. 6mm = 30A)

30A	010	010	A	2	A	1	B	A	T
DPM50	Negative	Positive	Output	Power	Alarm	Scaled	Decimal	Linea-	Certifi-
Part No.	Range	Range	Signal	Supply	Setup	Units	Points	arity	cate
6mm = 30A	0 Pa = 000	0 Pa = 000	0..10V = A	15 VDC = 1	Lo/Hi = A	Pa = 1	000 = A	0.5% = A	Trace = T
3mm = 30B	-25 Pa = 010	+25 Pa = 010	4..20mA = B	24 VDC = 2	Lo/Hi+R = B	mBar = 2	00.0 = B	1.0% = B	None = N
	-50 Pa = 015	+50 Pa = 015	0..20mA = C	24 VAC = 3	Lo/Hi Mute = C	kPa = 3	0.00 = C		
	-60 Pa = 020	+60 Pa = 020	5..19mA = D	110 VAC = 4		mm = 4	.000 = D		
	-100 Pa = 025	+100 Pa = 025		230 VAC = 5		"WG = 5			
	-125 Pa = 030	+125 Pa = 030							
	-150 Pa = 035	+150 Pa = 035							
	-200 Pa = 040	+200 Pa = 040							
	-250 Pa = 045	+250 Pa = 045							
	-300 Pa = 050	+300 Pa = 050							
	-400 Pa = 055	+400 Pa = 055							
	-500 Pa = 060	+500 Pa = 060							
	-750 Pa = 065	+750 Pa = 065							
	-1000 Pa = 070	+1000 Pa = 070							
	-1500 Pa = 075	+1500 Pa = 075							
	-2000 Pa = 080	+2000 Pa = 080							
	-2500 Pa = 085	+2500 Pa = 085							
	-3000 Pa = 090	+3000 Pa = 090							
	-4000 Pa = 095	+4000 Pa = 095							
	-5000 Pa = 100	+5000 Pa = 100							
	-6000 Pa = 105	+6000 Pa = 105							
	-7000 Pa = 110	+7000 Pa = 110							
	-8000 Pa = 115	+8000 Pa = 115							
	-9000 Pa = 120	+9000 Pa = 120							
	-10000 Pa = 125	+10000 Pa = 125							

HOW TO ORDER

Make up your own DPM50 Pressure Sensor selection below using the empty cells

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EXAMPLE

A panel mount pressure transmitter is required of the Type DPM50

The tube connections must be 3mm for small silicone Tube

The negative pressure range must be -100Pa

The positive pressure range must be +100Pa

The output signal must be 4-20mA

The power supply must be 24V AC isolated

The Alarms must have a mute facility

The scaled units must be in Pascals (Pa)

The indication must be 100.0 with one decimal point

The linearity must be 1% of full scale

The Certificate must be traceable to National Standards

Call CMR for assistance at any time

The part Number for this DPM50 is 30B 025 025 B 3 C 1 B B T

CMR CONTROLS
Division of C.M.RICHTER EUROPE LTD

22 Repton Court Repton Close
Basildon Essex SS13 1LN GB
Website : <http://www.cmr.co.uk>

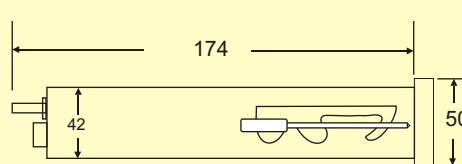
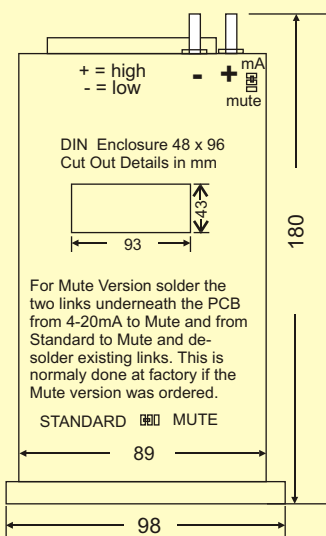
Tel +44 (0) 1268 287222
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DPM50 TECHNICAL SPECIFICATION

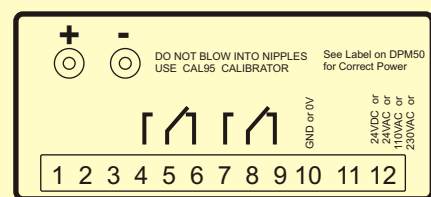
Measurement Range	See Order Selection Table DPM50 Pressure (see DPM55 Velocity data sheet for square root range)
Optional Range	Any Range from 25Pa up to +/- 10 000Pa or max up to 1 Bar
Overload Capacity	Ranges 25Pa - 150Pa up to max 1400Pa. Ranges from 200 - 10000Pa 10 times of range
Media	Non Corrosive Gases such as Air,N2,O2,CO2,N2 O, inert Gases
Diaphragm Unit	Bronze Beryllium Copper suitable for high concentration of Formaldehyde
AC Power Supplies	24 VAC 50/60Hz 140mA Fuse 300mA Auto Reset
	110VAC 50/60Hz 32mA Fuse 315mA Wickmann
	230VAC 50/60Hz 10mA Fuse 315mA Wickmann
DC Power Supplies	15 VDC smoothed. Sensor without Alarm LED's or Relays 70mA (Volt output only)
	24 VDC (19 to 31VDC) smoothed. Sensor with all Alarm Relays and LED's 130mA (with mA output)
Voltage Output Signal	0-10V (0...100% of Range) i.e 0...100Pa RL = 5kOhm min.
	If +/- 0...100Pa is used then: -100Pa = 0V 0Pa = 5.00V +100Pa = 10V
Current Output Signal	4...20mA (0...100% of Range) i.e. 0...100Pa RI = 500 Ohm max.
	If +/- 0...100Pa is used then: -100Pa = 4mA 0Pa = 12mA +100Pa = 20mA
Hysteresis/Repeatability	0.1% Typical of Full Scale
Linearity (Accuracy)	+/- 0.5% or 1.0% of Full Scale in Pressure Mode
Zero Drift	0.05%K (+10°C to +50°C)
Operating Temperature	-10°C to +70°C
Mounting Position	Horizontal
Alarm Relays	2 off Single Pole Change Over 5A at 24V AC or DC
Alarm Timers	2 off Individually adjustable from 1 to 99 seconds
Alarm LED's	2 off Adjustable to either normally on or normally off
Weight	0.7 kg
Electrical Connections	12 way Plug with Screw Connections
Air Tube Connections	Positive and Negative Pressure Barbed Nipple 6.5mm O/D x 15mm long
	Positive and Negative Pressure Straight Nipple 3.0mm O/D x 15mm long
Enclosure	ABS Black Protection IP44
Conformity	EN61326-1 EMC EN61010-1 SAFETY
Calibration Certificate	Supplied with Certificate traceable to National Standards

DIMENSIONS AND TUBE / ELECTRICAL CONNECTIONS



NOTE

Normal Nipple 6 mm O/D for CMR PVC Tube or small Nipple 3 mm O/D for Silicone Tube. The Enclosure is DIN 48x96 Panel Mount. Quick clamping devices are supplied. The Front Window is made of Red Clear Perspex. The Window can be opened from front and all Adjustments are from the front. Rear Cable Screw Terminal is a Female Plug.
If the Mute is configured the mute input is on Terminal 3 with an external momentary switch to Terminal 2 (GND).



- Analogue Output Signal 0-10V or 4-20mA
- DC Common Ground GND
- Can be configured to 4-20mA or Mute Input
- S2 Relay Contact Normally open when not energised
- S2 Relay Contact Common
- S2 Relay Contact Normally closed when not energised
- S1 Relay Contact Normally open when not energised
- S1 Relay Contact Common
- S1 Relay Contact Normally closed when not energised
- N Neutral isolated or DC Common System Ground
- No Pin Connection available
- L Live Power Supply Input depending on Part Number

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