home

DPM55 LOW AIR VELOCITY SENSOR

- Ultra low velocity 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

DPM55 panel mount with LED and Alarms

GENERAL DESCRIPTION

The DPM55 is a Panel mount velocity 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 velocity in m/s, depending on the SW1 switch selection. Alarm contacts which are configurable are standard.

The 4...20mA is produced by the DPM55 and can drive a number of devices. Standard pressure ranges are available from 0-25 Pa(6.45m/s) up to 0-500 Pa (28.8m/s). The maximum range is 100mBar. 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 hysterisis. 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 DPM55's are temperature compensated in a computerised climate chamber and go through an ageing burn in cycle.

CMR Climate Chamber

LED DISPLAY

A 4 digit LED Display indicates the actual velcoty pressure in Pa or velocity in m/s. The LED display is fitted into the front of the DPM55. It is intended for internal panel mount use. All adjustments can be made from the front.

DPM55 Front operating panel

The display can be smoothed by means of a potentiometer on the front of the DPM55 independently of the output signal of the sensor.

Tube nipples and a removable terminal plug are on the rear of the DPM55.

DPM55 Rear Connections

MAGNIFICATION FACTOR SCALING AND DAMPENING

The display's zero and span have been factory scaled during manufacture. A front potentiometer can be adjusted to remove the magnification factor of the CMR Flow Probes, Velo Probes and Velo Grids or any other velocity measurement devices. The output signal can be smoothed by means of a potentiometer on the front of the DPM55. 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.

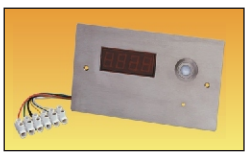
ALARM CONTACTS

The DPM55 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

Remote Alarm LCD Plate

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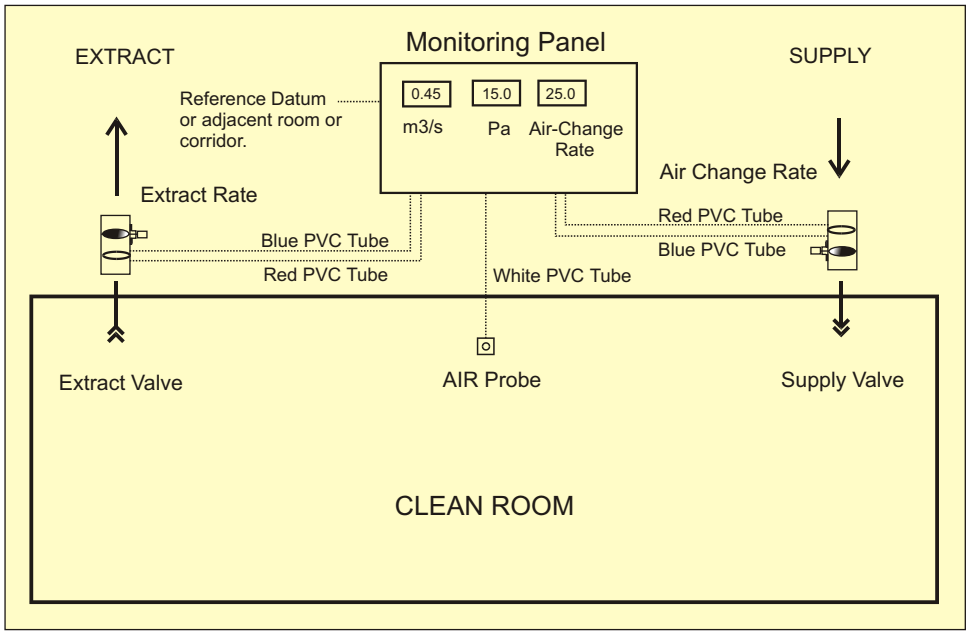
Issue GB 2 - 2 2000

DPM55 TYPICAL VELOCITY APPLICATION



Room Pressure, Extract Volume and Supply Air Change Rate Measurement

CMR Monitoring Panel

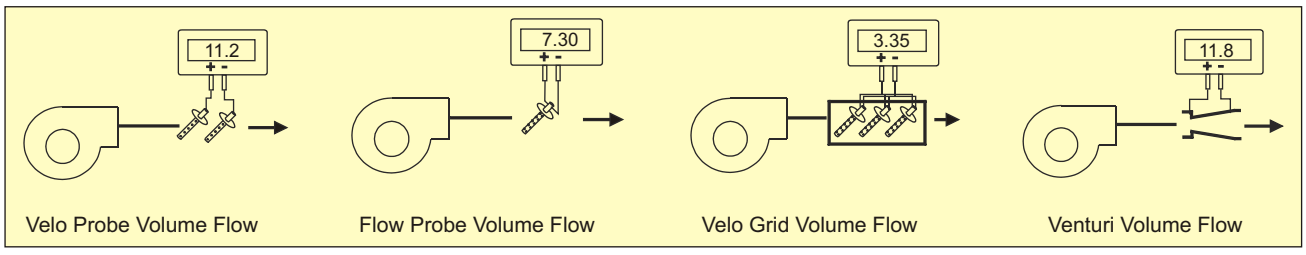
The DPM55 range of Instruments are true Velocity Pressure Monitors and incorporate many standard functions such as differential pressure measurements, Square Root Extraction, Magnification Factor Scaling.
Scaling in Volume Flow m3/s or litres or air change rate on request.

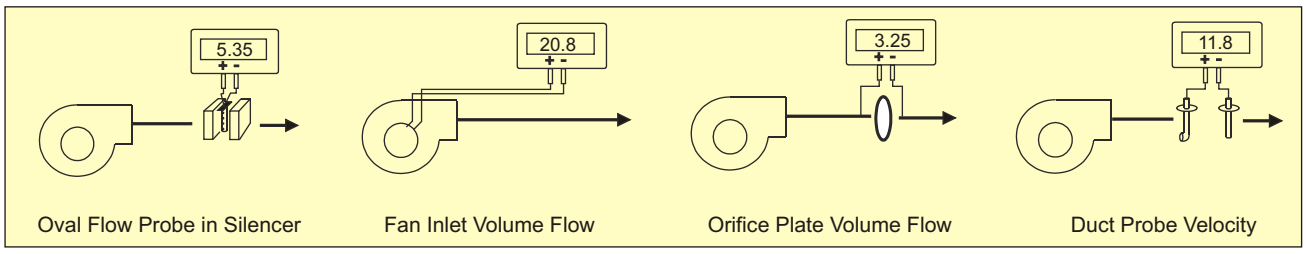
The DPM55's are ideal to mount into monitoring panels in a convenient area of the users premises. The CMR PVC tubing can be run up to 200m without losing accuracy of the measurement. Ideal for monitoring or controlling Volume Flow in Commercial or Process Applications.

The DPM55's can be connected to any CMR Duct Probes or Velo Grids, but it can also be connected to any existing or custom made duct Flow Measurement Device.

High or Low Alarm thresholds as well as timed alarm contacts can be transmitted to remote alarm fascia plates or BMS.
The monitoring panels are custom built by CMR and contain up to a maximum of 30 instruments in one panel of 1800 x 600 x 400 mm.
The panels can be connected to any Scada or Monitoring System.
Traceable calibration certificates to National Standards are supplied.

TYPICAL VELOCITY PRESSURE APPLICATIONS





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DPM55 AND VELO PROBE APPLICATION

GENERAL

The drawing shows a typical application for CMR velocity Velo Probes, DPM50 Pressure and DPM55 Velocity Sensors.

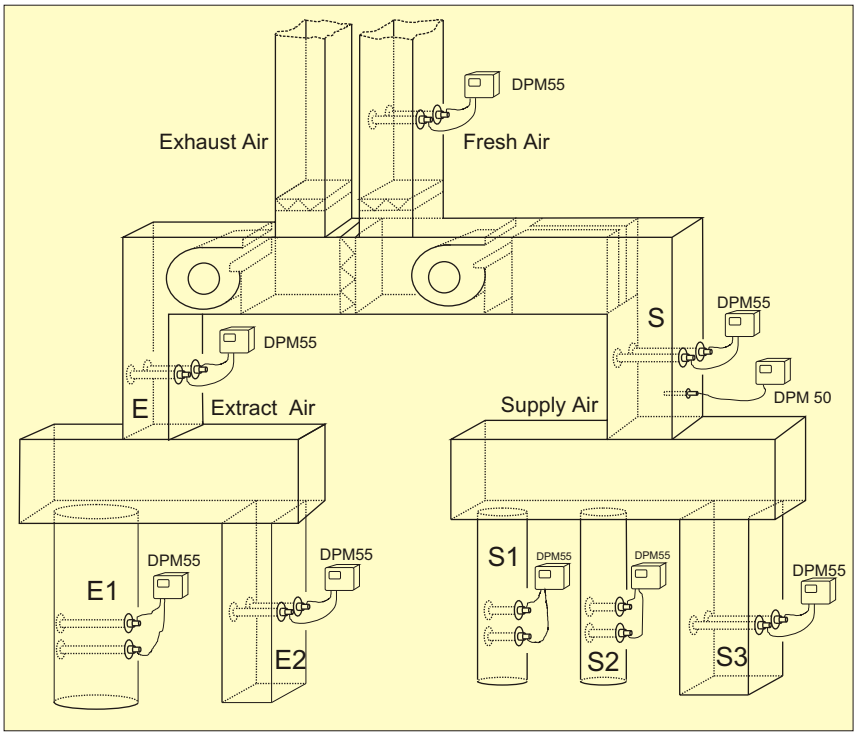
The supply air duct can either be fitted with one central Velo Probe or individual Velo Probes on each of its branches.

In many cases, the positions of the Velo Probes are very much dictated by the design of the building.The CMR Velo Probe can be fitted in almost any position in order to provide the necessary results.

In a single supply and single extract duct application the DPM55 measures the building's actual total supply and return volumes. As both DPM55's are calibrated to provide a linear air volume signal, tracking of supply and extract air is made simple.

The Veloprobes are easily adjusted by the commissioning engineer during final commissioning.
For multiple duct applications, the total supply airvolume is derived by adding measurements from individual ducts.

The same applies to the return air where the following formulae is specified as mentioned under the schematic on the right.



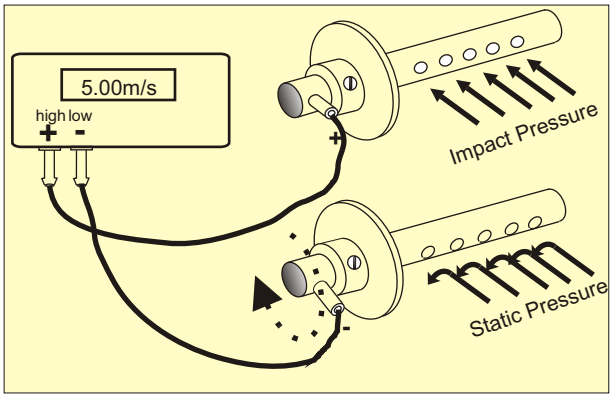
S = E ± an offset for positive or negative building pressure
S1 + S2 + S3 = E1 + E2 ± offset or S = E1 + E2 ± offset

DPM55 SCALING BY ADJUSTING THE VELO PROBES

Adjust the Impact Veloprobe to face the Airflow and and adjust the Static Veloprobe to approx. 40º away from the airflow.

Scaling the BMS in m/s
Look at the DPM55 label and scale BMS to 0V = 0 m/s and 10V = DPM55 range i.e. 12.91m/s. Take a Pitot reading in the duct and if this is 5.00 m/s adjust the Static Veloprobe by turning it towards or away from the airflow until the BMS Screen shows 5.0 m/s.

Scaling the BMS in m3/s
Multiply the V-Sensor range i.e. 12.91m/s by the duct area i.e 1m x 1m = 1m2. The Sensor range is now 10V=12.91 m3/s. Scale the BMS to 12.91m3/s and work out the Pitot readings in m3/s. If the Volume is 5.00 m3/s, turn the Static Veloprobe until the Screen shows 5.0 m3/s.



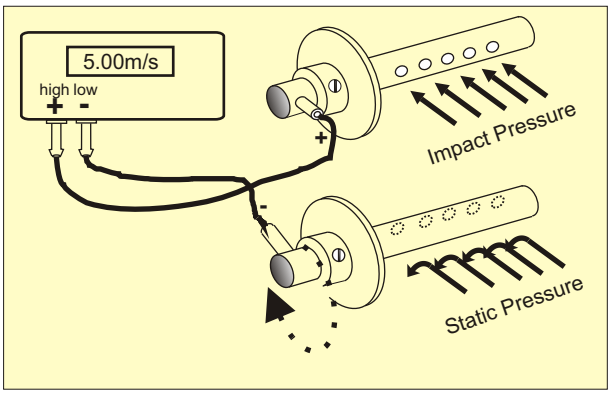
Calibrating by adjusting the Velo Probes

DPM55 SCALING BY ADJUSTING THE 'SCALER'

Adjust the Impact Veloprobe to face the Airflow and and adjust the Static Veloprobe to approx. 180º away from the airflow.

Scaling the BMS in m/s
Look at the DPM55 label and scale BMS to 0V = 0 m/s and 10V = DPM55 range i.e. 12.91m/s. Take a Pitot reading and if this is 5.00 m/s adjust the DPM55 'Scaler' Potentiometer until the BMS Screen shows 5.0 m/s.

Scaling the BMS in m3/s
Multiply the DPM55 range i.e. 12.91 m/s by the duct area i.e 1m x 1m = 1m2. The Sensor range is now 10V=12.91m3/s. Scale the BMS to 12.91 m3/s and work out the Pitot readings in m3/s. If the Volume is 5.00 m3/s, turn the DPM55 'Scaler' Potentiometer until the Screen shows 5.0 m3/s.



Calibrating by adjusting the DPM55 scaler

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Issue GB 2 - 2 2000

DPM55 FRONT CONTROL PANEL

FUNCTION SETTINGS

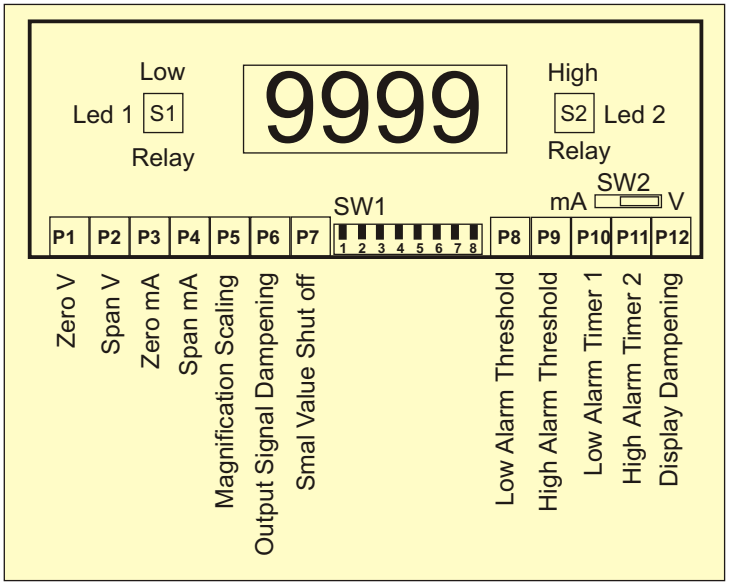
The DPM55 Velocity Pressure Sensor has all function controls and adjustments underneath the front window.

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 and m/s.
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

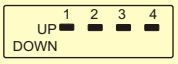
The rest of the SW1 switches deal with the Alarm Relays and LED1 and LED2 indicators and timer functions.

The output on Terminal 1 and 2 is normally set to 0-10V and Terminal 3 and 2 has normally 4-20mA unless the DPM55 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.

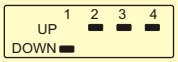


SW1 PIANO SWITCH SETTING

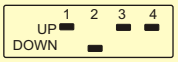
The SW1 switch is vital for the correct adjustments of all Potentiometers. The first 1 to 4 switches are used for the display functions and by setting these to the positions as indicated the display shall show the desired values. The Alternate 1, 2, 3, 4 scaling is not used as standard and shall be programmed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



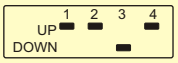
Pressure Display Normal Scaling
Pa in linear or m/s in square root



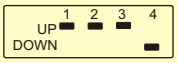
Alternate Scaling 1 kPa
Indicates invalid in square root mode.



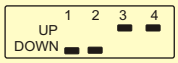
Alternate Scaling 2 mBar
Indicates invalid in square root mode.



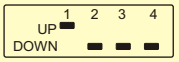
Alternate Scaling 3 mmH2O
Indicates invalid in square root mode.



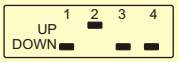
Alternate Scaling 4 sets display to reduced resolution. i.e. 10.0Pa to 10Pa.



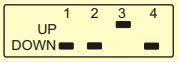
Alternate Scaling 5 inches H2O
Indicates invalid in square root mode.



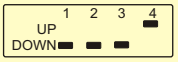
Low Alarm Display in Volts 0-9.99V displays value of P8



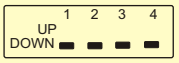
High Alarm Display in Volts 0-9.99V displays value of P9



Timer 1 Low Alarm (S1) 0-99.9 s displays value of P10



Timer 2 High Alarm (S2) 0-99.9 s displays value of P11



Display Output Voltage 0-9.99V displays value of V on Term 1 & 2

Linear Pressure Output Signal
Indicates Pressure without square root extraction (see also DPM50)

Square Rooted Output Signal indicates the velocity pressure converted to m/s.

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

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.

Relays normally De-Energised and shall be energised when in Alarm status

Relays normally Energised and shall be de-energised when in Alarm status

Alarm LED's are normally off and shall switch on in alarm status

Alarm LED's are normally on and shall switch off in alarm status

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DPM55 OPERATING INSTRUCTIONS

CALIBRATION INSTRUCTIONS
The DPM55's electronic is easily accessible by removing the front red lens. It is important to know that the DPM55'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. Beware of the Magnification Factor..

The standard DPM55 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.

ZERO ADJUSTMENT
Let the DPM55 run for 24 hours to settle before attempting to adjust the zero. The zero is normally factory set. P1 scales 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. Set P7 fully anti clock wise.

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 unil 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 DPM55 to 75% of Full Scale as indicated on the label of the DPM55 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 16.00m A 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.

LINEARITY CHECK
Use any CMR Calibrator and pump up the positive nipple of the DPM55 to 25% of Full Scale as indicated on the label of the DPM55 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.
Repeat the Zero and Span adjustments a few times

SQUARE ROOT CHECK
The Square Root circuit is factory adjusted. In order to check its accuracy use any of the CMR Calibrators and pump up the positive nipple of the DPM55 to 20% of Full Scale as indicated on the label of the DPM55 i.e. a 100Pa Sensor would be pumped up to 20.0Pa. To check the Square Rooter switch SW1 switch 5 to DOWN position during measurement. The Results should be:

20% = 20 Pa is 2.00V / 7.20mA in Linear Mode
20% = 20 Pa is 4.47V / 11.15mA in Square Root Mode
50 % = 50 Pa or 5.00V/12.00mA in Linear Mode
50 % = 50 Pa or 7.07V/15.31mA in Square Root Mode

MAGNIFICATION FACTOR SCALING
Pump up the DMP55 to its range i.e. 100 Pa and note down the output Voltage in Linear Mode. If it is not at 10V the scaler P5 has been adjusted. Make sure to re-adjust P5 to its original position by pumping up the DPM55 after calibration.

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 DPM55 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 DPM55 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 DPM55 is not a Mute Version then the Low or High Threshold starts Timer1 and after time out switches S1 and starts Timer2 and S2 after time out.
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 DPM55 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.

SMALL VALUE SHUT OFF
The output signal at very low pressures is extremely high when square rooted. In order to force the signal to have 0V output when there is no airflow, turn P7 clockwise until the signal shows 0V. Test this function a few times until satisfied.

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DPM55 ORDER DESCRIPTION

DPM55 VELOCITY PRESSURE MEASUREMENT INSTRUMENT

GENERAL
CMR manufactures a large range of DPM55 panel mount velocity pressure sensors to suit many applications. Because of the variety of velocity 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 DPM55 specification to satisfy a requirement. You will find all specifications available with the associated ordering Code on the DPM55 Velocity Sensor Selection Table .

DPM55 PART NUMBER
The DPM55 Part Number starts with the selection of the enclosure which depends on the Tube connections. In the Example we have chosen Code '33A' which is a standard DPM55 enclosure with 6 mm barbed nipples to fit CMR PVC Tube.

The Part Number therefore starts with ' 33A '.

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 '33B'.

NEGATIVE PRESSURE RANGE
The Negative Range is not available with DPM55 Sensors as negative velocity pressures are never measured and cannot be square rooted.

The Code '000' always applies to any DPM55
The Part Number extends to '33A 000'.

VELOCITY PRESSURE RANGE
It is important to determine the duct velocity pressure. Normally, this information is supplied by the Designer of the Ventilation System. On the DPM55 SelectionTable are a number of standard velocity pressures listed.

We have chosen 0 - 12.91 m/s which has the Code '025'.
The Part Number extends to '33A 000 025'

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.

We have chosen 0...10 V which has the Code 'A'.
The Part Number extends to '33A 000 025 A

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 seldom used.

We have chosen 24VDC which has the Code '2'.
The Part Number extends to '33A 000 025 A 2'.

ALARM RELAY SETTINGS
The DPM55 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 also 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 ' 33A 000 025 A 2 A'.

SCALED UNITS
The 4 digit LED is factory scaled to suit the application i.e. 0-100 Pa which means it is scaled in 0..100 Pa (Pascals) and 0..12.91 m/s (metres/second).

By switching the Piano Switch SW1 switch 5 to up position, velocity pressure can be displayed in Pa which is Code '2' or setting the switch to down position square rooted velocity pressure is displayed in m/s which is Code '1'.

We have chosen the Code '1' .
The Part Number extends to ' 33A 000 025 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 velocity pressure or velocity should be indicated on the LED. In the example we have chosen one decimal point which has the Code 'B' . This means in square root mode it shall indicate 12.9 m/s but in linear mode it indicates 100 Pa.

The Part Number extends to ' 33A 000 025 A 2 A 1 B'.

LINEARITY
The DPM55 is available in two Linearity Grades 0.5% or 1% in Linear velocity pressure Mode.

We have chosen 0.5% which has the Code 'A'.
The Part Number extends to '33A 000 025 A 2 A 1 B A'

TRACEABLE CALIBRATION CERTIFICATE
The DPM55 can be supplied with aTraceable Calibration Certificate to National Standard which has the Code 'T'.

In the Example we have used Code 'T'.
The Part Number extends to '33A 000 025 A 2 A 1 B A T'.

FINAL PART NUMBER
The Part Number to order is 33A000025A2A1BAT.

Now try and select your own DPM55 using the DPM55 Order Selection Table.

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DPM55 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 33A 000 025 A 2 A 1 B A T which is printed above the Selection Table can be identified as being a DPM55 Velocity Pressure Sensor having 6mm barbed tube connectors with a Negative Range of 0 Pa and a Positive Range of 100 Pa (12.91m/s), with an Output Signal of 0-10V. The power Supply is 24VDC. The DPM55 is set up as a Low and High Alarm Unit. The display is scaled in m/s. The Decimal Points are adjusted to 1 which indicates 0 -12.9 m/s. The Linearity is 0.5% in Linear Mode 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 = 33A)

33A	000	025	A	2	A	1	B	A	T
DPM55	Negative	Positive	Output	Power	Alarm	Scaled	Decimal	Linea-	Certifi-
Part No.	Range	Range	Signal	Supply	Setup	Units	Points	rity	cate
6mm = 33A	0 Pa = 000	25Pa (6.45m/s) = 010	0..10V = A	15 VDC = 1	Lo/Hi = A	m/s = 1	000 = A	0.5% = A	Trace = T
3mm = 33B		50Pa (9.12m/s) = 015	4..20mA = B	24 VDC = 2	Lo/Hi+R = B	Pa = 2	00.0 = B	1.0% = B	None = N
		60Pa(10.00m/s) = 020	0..20mA = C	24 VAC = 3	Lo/Hi Mute = C		0.00 = C		
		100Pa(12.91m/s) = 025	5..19mA = D	110 VAC = 4			.000 = D		
		125Pa(14.43m/s) = 030		230 VAC = 5					
		150Pa(15.81m/s) = 035							
		200Pa(18.25m/s) = 040							
		250Pa(20.41m/s) = 045							
		300Pa(22.36m/s) = 050							
		400Pa(25.82m/s) = 055							
		500Pa(28.86m/s) = 060							
		750Pa(35.35m/s) = 065							
		1000Pa(40.82m/s) = 070							
		1500Pa(50.00m/s) = 075							
		2000Pa(57.73m/s) = 080							
		2500Pa(64.55m/s) = 085							
		3000Pa(70.71m/s) = 090							
		4000Pa(81.65m/s) = 095							
		5000Pa(91.28m/s) = 100							
		6000Pa(100.00m/s) = 105							
		7000Pa(108.01m/s) = 110							
		8000Pa(115.47m/s) = 115							
		9000Pa(122.47m/s) = 120							
		10000Pa(129.10m/s) = 125							

HOW TO ORDER

Make up your own DPM55 Pressure Sensor selection below using the empty cells

EXAMPLE
A panel mount pressure transmitter is required of the Type DPM55
The tube connections must be 3mm for small silicone Tube
The negative pressure range must be 0 Pa (no others can be supplied)
The positive pressure range must be +100Pa (12.91m/s)
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 metres/second (m/s)
The indication must be 12.9 with one decimal point
The linearity must be 1% of full scale
The Certificate must be traceable to National Standards

The part Number for this DPM55 is 33B 000 025 B 3 C 1 B B T

Call CMR for assistance at any time

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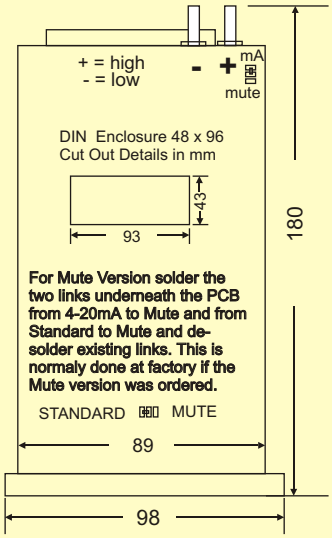
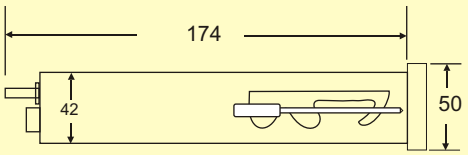
DPM55 TECHNICAL SPECIFICATION

Measurement Range	See Order Selection Table DPM55
Optional Range	Any Range from 25Pa (6.45m/s) up to 10 000Pa (129.10m/s)
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) 0..12.91m/s in square root mode RL = 5kOhm min.
	The output voltage is the result of square rooting the linear pressure i.e 100 Pa.
	100 Pa square rooted = 10 m/s . Multiply the 10 m/s by the density of air x 1.291 = 12.91m/s
Current Output Signal	4...20mA (0...100% of Range) i.e. 0...12.91m/s RI = 500 Ohm max.
	The mA circuit is a direct conversion of the 0..10V and therefore all calculations should be
	made in 0..10V. The 4..20mA is linear from 0...12.91m/s.
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

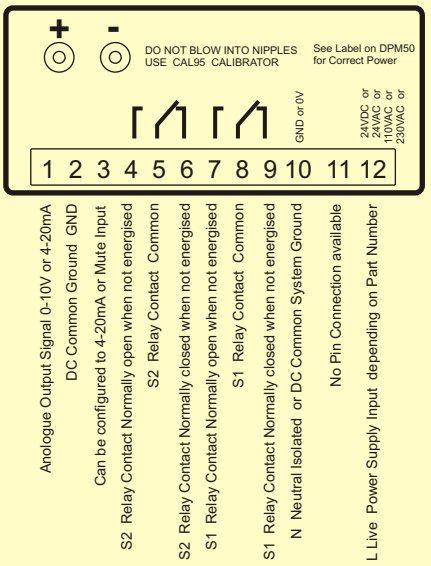
DIMENSIONS AND TUBE / ELECTRICAL CONNECTIONS





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).



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