



RMO Series

Precision compensated pressure sensors

FEATURES

- 0...10 mbar to 0...10 bar, 0...4 inch H₂O to 0...150 psi, absolute, gage or differential pressure
- Precision temperature compensated
- Calibrated offset and span
- Sensortech PRO services

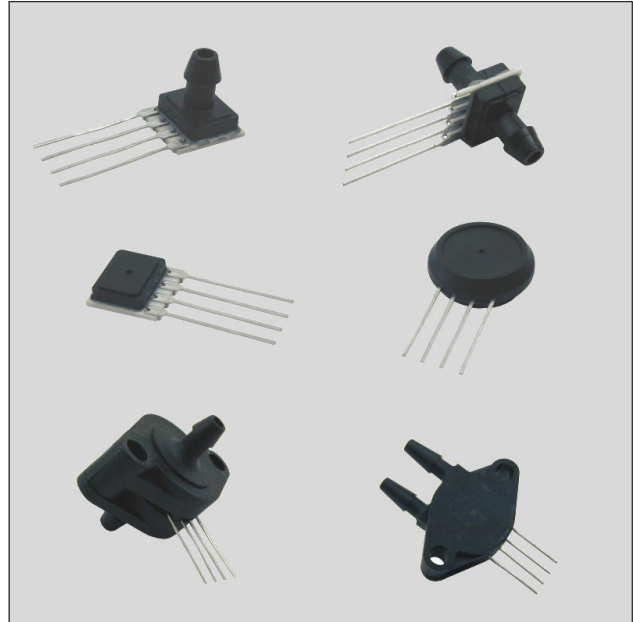
MEDIA COMPATIBILITY

Non-corrosive, non-ionic working fluids such as clean dry air, dry gases and the like.

The media wetted materials are:

port 1: front side of silicon sensor chip, glass filled nylon, RTV, silgel (for devices from 5 psi), ceramic (Al₂O₃)

port 2: silicon sensor chip, glass filled nylon, RTV, ceramic (Al₂O₃)

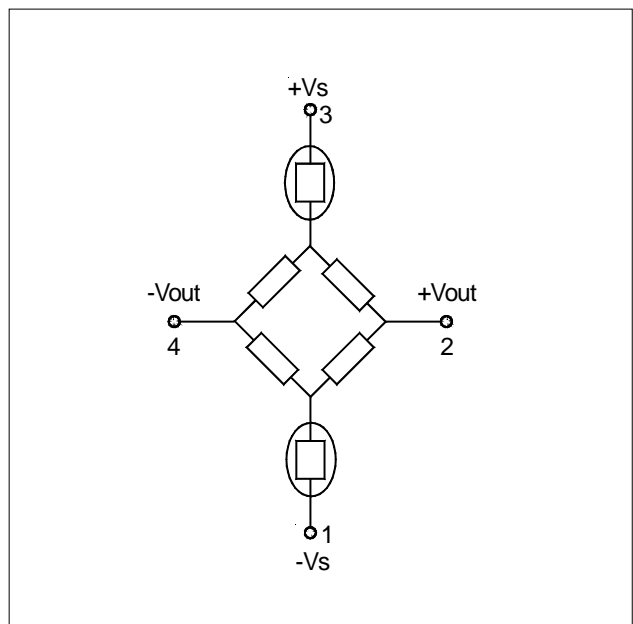


SPECIFICATIONS

Maximum ratings

Supply voltage	3 to 16 V
Temperature limits	
Compensated	0 to 70 °C
Operating	-25 to 85 °C
Storage	-40 to 125 °C
Lead temperature (soldering 5 seconds)	315 °C
Humidity limits (non-condensing)	0 to 95 %RH
Common mode pressure	50 psig

EQUIVALENT CIRCUIT





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PRESSURE SENSOR CHARACTERISTICS ($V_s = 12\text{ V}$, $T_A = 25^\circ\text{C}$, pressure applied to port P1)

RMO...P devices (Prime Grade)

Part no.	Operating pressure	Proof pressure ¹	Burst pressure ²	Full scale span ³		
				Min.	Typ.	Max.
RMOM020...	20 mbar	200 mbar	350 mbar	18.8 mV	19.3 mV	19.8 mV
RMOM025...	25 mbar	200 mbar	350 mbar	19.6 mV	20.1 mV	20.6 mV
RMOM050...	50 mbar	200 mbar	350 mbar	12.9 mV	13.05 mV	13.2 mV
RMOM100...	100 mbar	200 mbar	350 mbar	25.8 mV	26.1 mV	26.4 mV
RMOM250...	250 mbar	1 bar	1,7 bar	42.8 mV	43.5 mV	44.2 mV
RMOB001...	1 bar	3 bar	5 bar	86.1 mV	87.0 mV	88.0 mV
RMOB002...	2 bar	6 bar	10 bar	86.1 mV	87.0 mV	88.0 mV
RMOB005...	5 bar	17 bar	27 bar	71.8 mV	72.5 mV	73.2 mV
RMOB010...	10 bar	17 bar	27 bar	86.1 mV	87.0 mV	88.0 mV
RMOH010...	10 inch H ₂ O	3 psi	5 psi	19.5 mV	20 mV	20.5 mV
RMOP001...	1 psi	3 psi	5 psi	17.8 mV	18 mV	18.2 mV
RMOP005...	5 psi	15 psi	25 psi	59 mV	60 mV	61 mV
RMOP015...	15 psi	45 psi	75 psi	89 mV	90 mV	91 mV
RMOP030...	30 psi	90 psi	150 psi	89 mV	90 mV	91 mV
RMOP060...	60 psi	180 psi	300 psi	89 mV	90 mV	91 mV
RMOP100...	100 psi	250 psi	400 psi	99 mV	100 mV	101 mV
RMOP150...	150 psi	250 psi	400 psi	89 mV	90 mV	91 mV

RMO...H devices (High Grade)

Part no.	Operating pressure	Proof pressure ¹	Burst pressure ²	Full scale span ³		
				Min.	Typ.	Max.
RMOM010...	10 mbar	200 mbar	350 mbar	23.1 mV	25.1 mV	27.1 mV
RMOM025...	25 mbar	200 mbar	350 mbar	19.1 mV	20.1 mV	21.1 mV
RMOM050...	50 mbar	200 mbar	350 mbar	12.3 mV	13.05 mV	13.8 mV
RMOM100...	100 mbar	200 mbar	350 mbar	24.6 mV	26.1 mV	27.6 mV
RMOM250...	250 mbar	1 bar	1.7 bar	41.3 mV	43.5 mV	45.7 mV
RMOB001...	1 bar	3 bar	5 bar	82.2 mV	87.0 mV	91.9 mV
RMOB002...	2 bar	6 bar	10 bar	82.2 mV	87.0 mV	91.9 mV
RMOB005...	5 bar	17 bar	27 bar	68.9 mV	72.5 mV	76.1 mV
RMOB010...	10 bar	17 bar	27 bar	82.2 mV	87.0 mV	91.9 mV
RMOH004...	4 inch H ₂ O	3 psi	5 psi	23 mV	25 mV	27 mV
RMOH010...	10 inch H ₂ O	3 psi	5 psi	19 mV	20 mV	21 mV
RMOP001...	1 psi	3 psi	5 psi	17 mV	18 mV	19 mV
RMOP005...	5 psi	15 psi	25 psi	57 mV	60 mV	63 mV
RMOP015...	15 psi	45 psi	75 psi	85 mV	90 mV	95 mV
RMOP030...	30 psi	90 psi	150 psi	85 mV	90 mV	95 mV
RMOP060...	60 psi	180 psi	300 psi	85 mV	90 mV	95 mV
RMOP100...	100 psi	250 psi	400 psi	95 mV	100 mV	105 mV
RMOP150...	150 psi	250 psi	400 psi	85 mV	90 mV	95 mV



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PERFORMANCE CHARACTERISTICS

($V_s = 12\text{ V}$, $T_A = 25^\circ\text{C}$, pressure applied to port P1)

RMO...P devices (Prime Grade)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset		-0.5	0	+0.5	mV
Combined non-linearity and hysteresis ⁴			±0.25	±0.5	%FSS
Temperature effects (0 to 70°C) ⁵	Span			±1.0	
	Offset			±0.5	mV
Input resistance		5			kΩ
Output resistance			3		
Response time (10 to 90 %FSS)	all 25 mbar/10 "H ₂ O devices		500		μs
	All other devices		100		
Common mode voltage ⁶			6		V

RMO...H devices (High Grade)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	RMOP030ANDH, ...P030ATMH RMOB002ANDH, ...B002ATMH	-1.0	0	+1.0	mV
	All other devices	-0.5	0	+0.5	
Combined non-linearity and hysteresis ⁴			±0.25	±1.0	%FSS
Temperature effects (0 to 70°C) ⁵	Span			±2.0	
	Offset			±1.0	mV
Input resistance		5			kΩ
Output resistance			3		
Response time (10 to 90 %FSS)	all devices up to 25 mbar/10 "H ₂ O		500		μs
	All other devices		100		
Common mode voltage ⁶			6		V

Specification notes:

1. Proof pressure is the maximum pressure which may be applied without causing durable shifts of the electrical parameters of the sensing element.
2. Burst pressure is the maximum pressure which may be applied without causing damage to the sensing element or leaks from the housing.
3. Full scale span is the algebraic difference between the output voltage at full-scale pressure and the output at zero pressure. The span is ratiometric to the supply voltage.
4. Non-linearity refers to the Best Straight Line fit measured for offset pressure, full-scale pressure and ½ full-scale pressure.
5. Shift is relative to 25°C. The RMOM010.../RMOH004... have a compensated temperature range from 0 to 50°C.
6. This is the common-mode voltage of the output arms (pins 2 and 4) for $V_s = 12\text{ V}$.



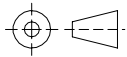
RMO Series

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OUTLINE DRAWING AND ELECTRICAL CONNECTION

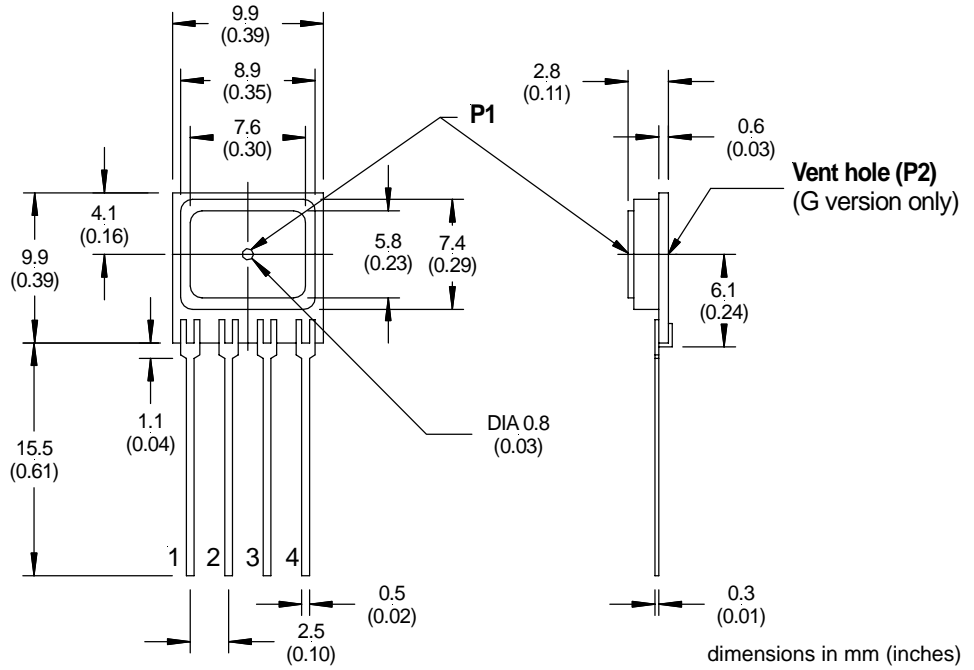
RMO...GND... and RMO...AND...

Pin	Connection
1	-Vs
2	+Vout
3	+Vs
4	-Vout



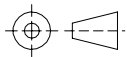
third angle projection

mass: approx. 2 g



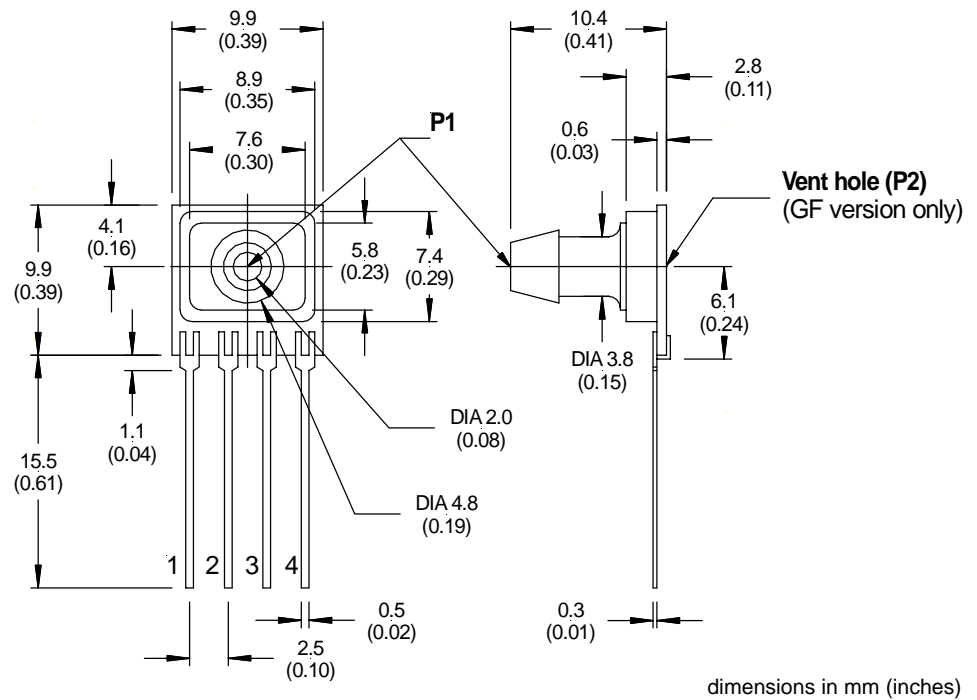
RMO...GFD... and RMO...AFD...

Pin	Connection
1	-Vs
2	+Vout
3	+Vs
4	-Vout



third angle projection

mass: approx. 2 g





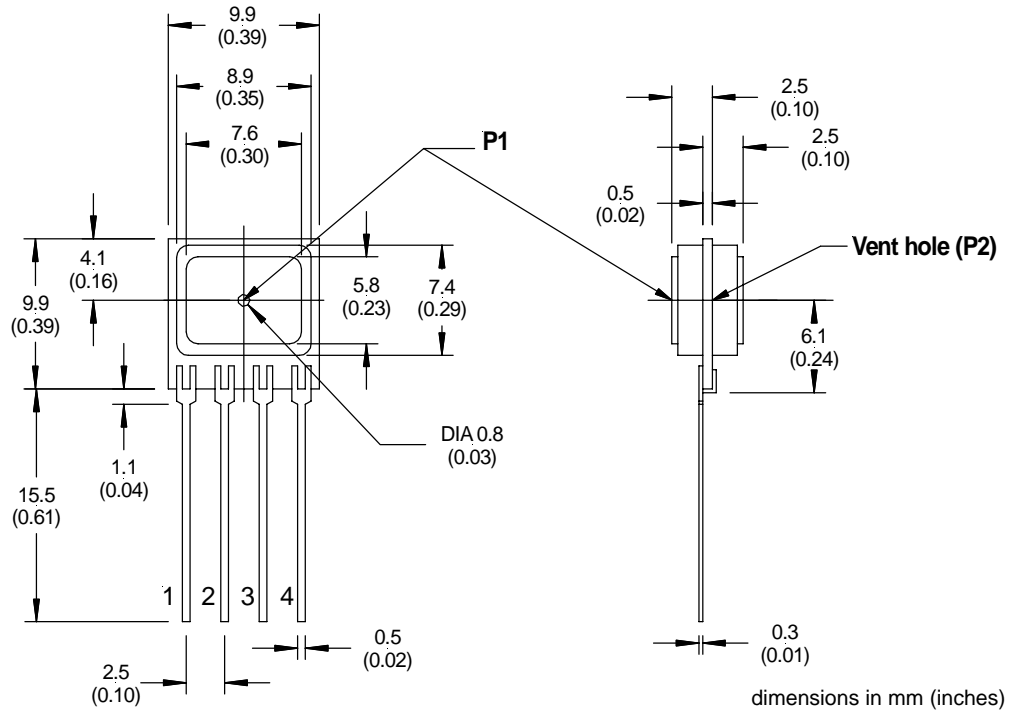
RMO Series

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OUTLINE DRAWING AND ELECTRICAL CONNECTION (cont.)

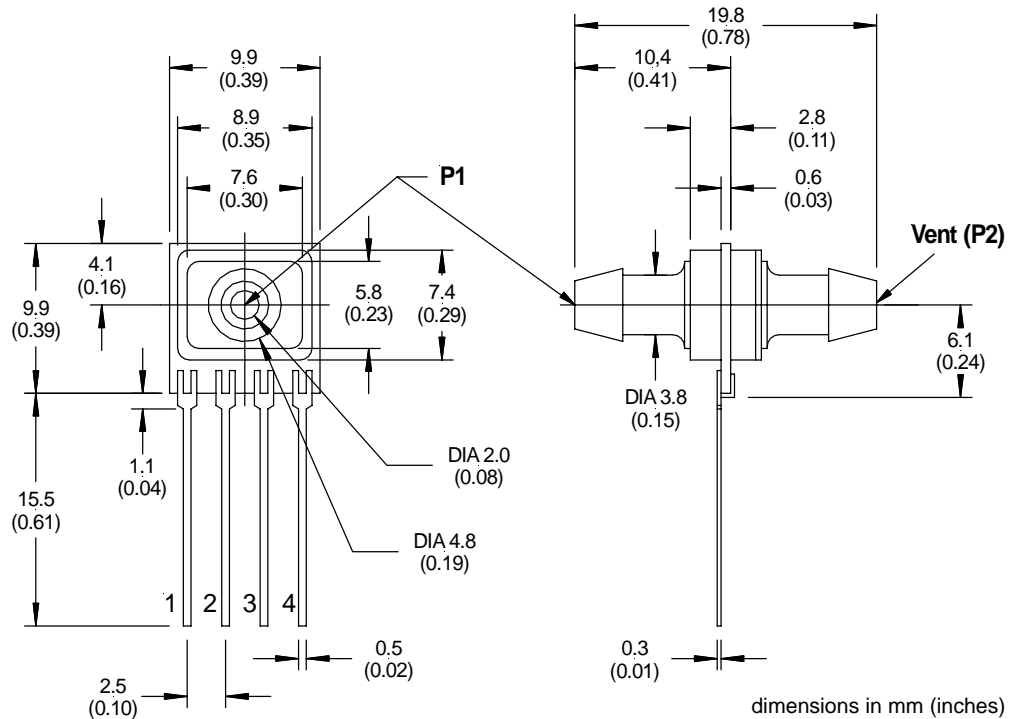
RMO...DND...

Pin	Connection
1	-Vs
2	+Vout
3	+Vs
4	-Vout



RMO...DFD...

Pin	Connection
1	-Vs
2	+Vout
3	+Vs
4	-Vout





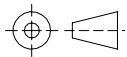
RMO Series

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OUTLINE DRAWING AND ELECTRICAL CONNECTION (cont.)

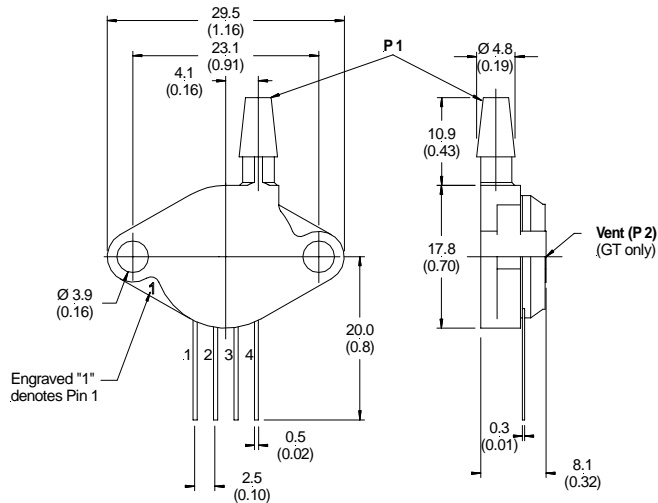
RMO...ATM... and RMO...GTM...

Pin	Connection
1	-Vs
2	+Vout
3	+Vs
4	-Vout



third angle projection

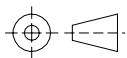
mass: approx. 2 g



dimensions in mm (inches)

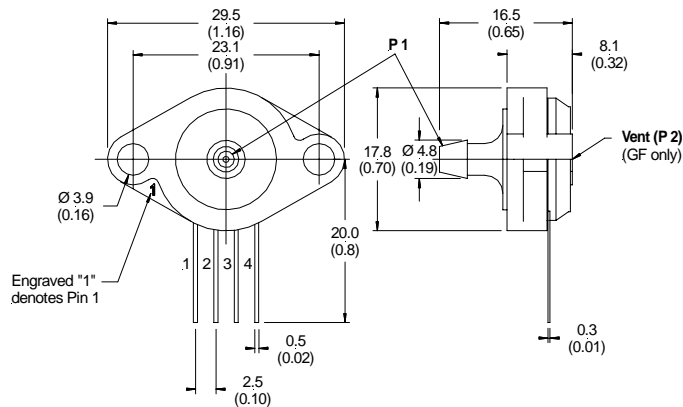
RMO...AFM... and RMO...GFM...

Pin	Connection
1	-Vs
2	+Vout
3	+Vs
4	-Vout



third angle projection

mass: approx. 2 g



dimensions in mm (inches)



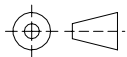
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OUTLINE DRAWING AND ELECTRICAL CONNECTION (cont.)

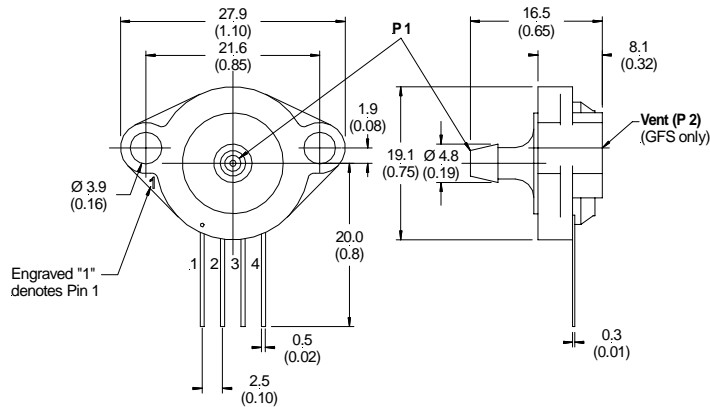
RMO...ASM... and RMO...GSM...

Pin	Connection
1	-Vs
2	+Vout
3	+Vs
4	-Vout



third angle projection

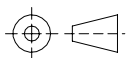
mass: approx. 2 g



dimensions in mm (inches)

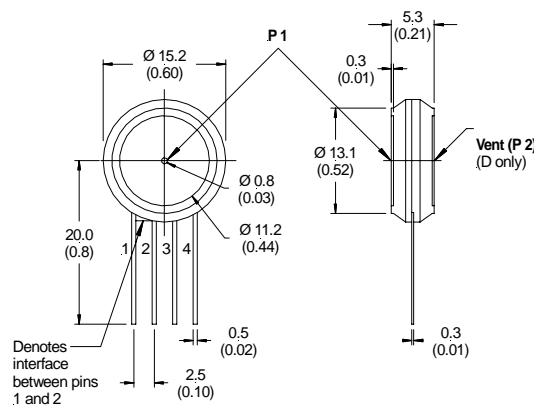
RMO...ANM... and RMO...DNM...

Pin	Connection
1	-Vs
2	+Vout
3	+Vs
4	-Vout



third angle projection

mass: approx. 2 g



dimensions in mm (inches)



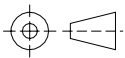
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OUTLINE DRAWING AND ELECTRICAL CONNECTION (cont.)

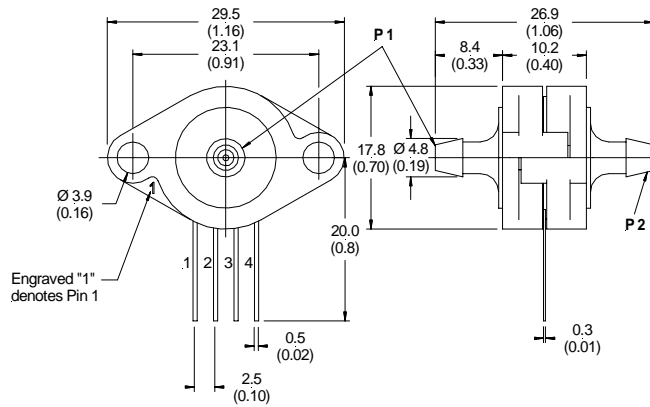
RMO...DFM...

Pin	Connection
1	-Vs
2	+Vout
3	+Vs
4	-Vout



third angle projection

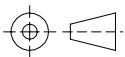
mass: approx. 2 g



dimensions in mm (inches)

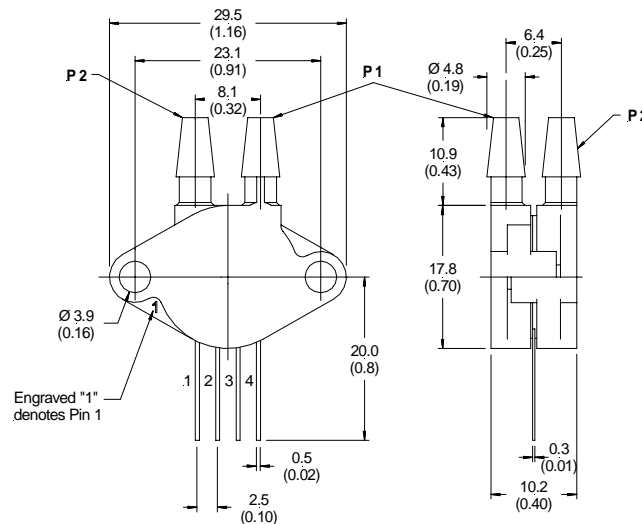
RMO...DTM...

Pin	Connection
1	-Vs
2	+Vout
3	+Vs
4	-Vout



third angle projection

mass: approx. 2 g



dimensions in mm (inches)

Colour codes for all square and RMO...NM... housing styles

Colour dot 1	Pressure range	Colour dot 2	Grade
White	10 mbar, 4 "H ₂ O	Gold	Prime
Pink	20 mbar	Silver	High
Yellow	25 mbar, 10 "H ₂ O		
Green	50 mbar, 100 mbar, 1 psi		
Light blue	250 mbar, 5 psi		
Purple	1 bar, 15 psi		
Orange	2 bar, 30 psi		
Dark blue	60 psi		
Brown	5 bar, 100 psi		
Red	10 bar, 150 psi		



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ORDERING INFORMATION - AVAILABLE LISTINGS

Note:

- Preferred listings are highlighted in grey
- RMO...P = Prime Grade, RMO...H = High Grade

Pressure range	A B S O L U T E D E V I C E S					
	No port, square housing (...AND...)	Axial port, square housing (...AFD...)	No port, round housing (...ANM...)	Axial port, round housing (...AFM...)	Offset axial port, round housing (...ASM...)	Radial port, round housing (...ATM...)
1 bar	RMOB001AND(P,H)	RMOB001AFD(P,H)	-	RMOB001AFM(P,H)	-	RMOB001ATM(P,H)
2 bar	-	RMOB002AFD(P,H)	-	-	-	-
5 bar	-	RMOB005AFD(P,H)	-	-	-	-
10 bar	-	RMOB010AFD(P,H)	-	-	-	-
15 psi	RMOP015AND(P,H)	RMOP015AFD(P,H)	-	RMOP015AFMP	-	RMOP015ATMH
30 psi	-	RMOP030AFD(P,H)	-	-	-	RMOP030ATMH
60 psi	-	-	-	-	-	-
100 psi	-	RMOP100AFD(P,H)	-	-	-	-
150 psi	-	RMOP150AFD(P,H)	-	-	-	-

Pressure range	G A G E D E V I C E S				
	No port, square housing (...GND...)	Axial port, square housing (...GFD...)	Axial port, round housing (...GFM...)	Offset axial port, round housing (...GSM...)	Radial port, round housing (...GTM...)
10 mbar	RMOM010GNDH	RMOM010GFDH	-	-	RMOM010GTMH
20 mbar	-	-	-	-	-
25 mbar	-	RMOM025GFD(P,H)	-	-	-
50 mbar	RMOM050GND(P,H)	RMOM050GFD(P,H)	-	RMOM050GSM(P,H)	RMOM050GTMP
100 mbar	RMOM100GND(P,H)	RMOM100GFD(P,H)	-	-	RMOM100GTM(P,H)
250 mbar	RMOM250GND(P,H)	RMOM250GFD(P,H)	-	-	-
1 bar	-	RMOB001GFD(P,H)	-	-	RMOB001GTMH
2 bar	-	RMOB002GFD(P,H)	-	-	RMOB002GTMH
5 bar	RMOB005GNDH	RMOB005GFD(P,H)	-	-	RMOB005GTMH
10 bar	-	RMOB010GFD(P,H)	-	-	RMOB010GTM(P,H)
4 "H ₂ O	RMOH004GNDH	RMOH004GFDH	-	-	RMOH004GTMH
10 "H ₂ O	-	RMOH010GFD(P,H)	-	-	-
0.3 psi	-	-	-	-	-
1 psi	RMOP001GND(P,H)	RMOP001GFD(P,H)	-	-	RMOP001GTM(P,H)
5 psi	RMOP005GND(P,H)	RMOP005GFD(P,H)	-	-	-
15 psi	-	RMOP015GFD(P,H)	-	-	RMOP015GTMH
30 psi	-	RMOP030GFD(P,H)	-	-	RMOP030GTMH
60 psi	-	RMOP060GFDP	-	-	RMOP060GTMH
100 psi	RMOP100GNDH	RMOP100GFD(P,H)	-	-	RMOP100GTMH
150 psi	-	RMOP150GFD(P,H)	-	-	RMOP150GTM(P,H)



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ORDERING INFORMATION - AVAILABLE LISTINGS (cont.)

Note:

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Pressure range	D I F F E R E N T I A L D E V I C E S				
	No port, square housing (...DND...)	Axial port, square housing (...DFD...)	No port, round housing (...DNM...)	Axial port, round housing (...DFM...)	Radial port, round housing (...DTM...)
10 mbar	RMOM010DNDH	RMOM010DFDH	RMOM010DNMH	RMOM010DFMH	RMOM010DTMH
20 mbar	-	RMOM020DFDP	-	-	-
25 mbar	-	RMOM025DFDH	-	-	RMOM025DTM(P,H)
50 mbar	-	RMOM050DFDH	RMOM050DNM(P,H)	-	RMOM050DTM(P,H)
100 mbar	-	RMOM100DFDH	RMOM100DNM(P,H)	-	RMOM100DTM(P,H)
250 mbar	-	RMOM250DFDH	RMOM250DNM(P,H)	RMOM250DFM(P,H)	RMOM250DTM(P,H)
1 bar	-	RMOB001DFDH	RMOB001DNM(P,H)	-	RMOB001DTM(P,H)
2 bar	-	-	-	-	RMOB002DTM(P,H)
5 bar	-	-	-	-	-
10 bar	-	RMOB010DFDH	-	-	-
4 "H ₂ O	RMOH004DNDH	RMOH004DFDH	RMOH004DNMH	RMOH004DFMH	RMOH004DTMH
10 "H ₂ O	-	RMOH010DFDH	-	-	RMOH010DTM(P,H)
0.3 psi	-	-	-	-	-
1 psi	-	-	RMOP001DNMP	-	RMOP001DTM(P,H)
5 psi	-	RMOP005DFDH	RMOP005DNMP	RMOP005DFMP	RMOP005DTM(P,H)
15 psi	-	RMOP015DFDH	RMOP015DNM(P,H)	-	RMOP015DTM(P,H)
30 psi	-	-	-	-	RMOP030DTM(P,H)
60 psi	-	-	-	-	RMOP060DTM(P,H)
100 psi	-	-	-	-	-
150 psi	-	RMOP150DFDH	-	-	-

Sensortech PRO services:

- Extended guarantee period of 2 years
- Improved performance characteristics
- Custom product modifications and adaptations even for small quantities
- Advanced logistics models for supply inventory and short delivery times
- Technical support through application engineers on the phone or at your site
- Fastest possible technical response for design and QA engineers
- ... plus other services on request

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