

FEATURES

- Ranges from 1 to 30 "H₂O and 2.5 to 75 mbar differential or gage
- Precision temperature compensated
- Calibrated offset and span
- Extremely low position sensitivity
- Excellent long term stability
- Ratiometric output or internal supply regulation



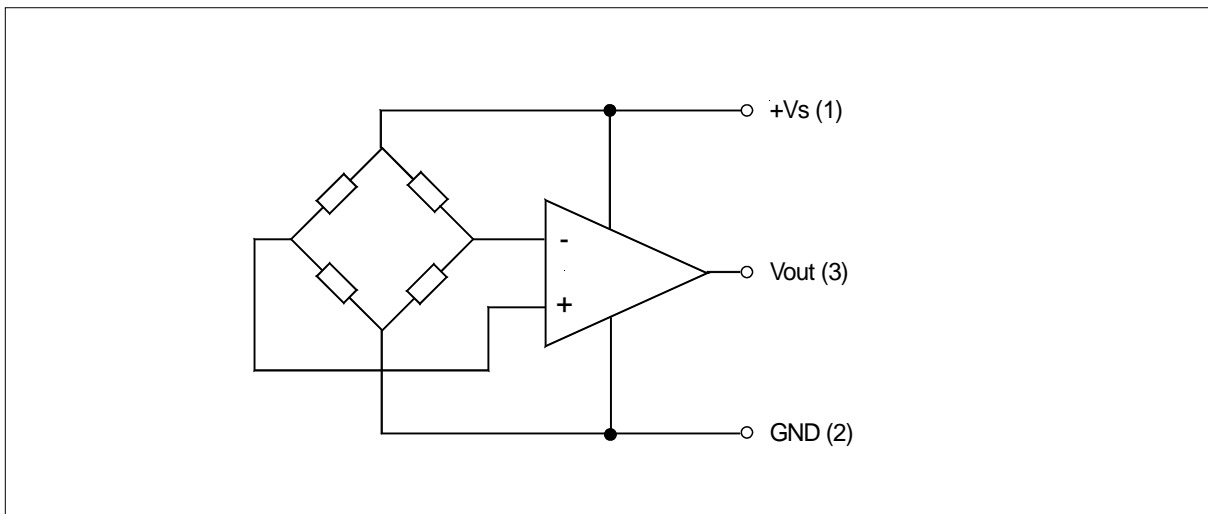
SERVICE

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

The media wetted materials are:

- silicon diaphragm
- glass filled nylon
- RTV
- ceramic (Al₂O₃)

EQUIVALENT CIRCUIT



SPECIFICATIONS

Maximum ratings (for all devices)

Supply voltage V_s	4.9 to 5.1 V (DC...C4) 7 to 30 V (DC...R4, DC...R5)
Lead temperature (soldering 5 sec.)	315 °C
Maximum load current	
Source	2 mA
Sink	20 μ A

Environmental specifications (for all devices)

Temperature range	
Compensated	0 to 50 °C
Operating	-25 to +85 °C
Storage	-40 to +125 °C
Humidity limits (non-condensing)	0 to 95 %RH

CAUTION Applications requiring supply voltages greater than 20 V on power-up must have a 10 Ohm resistor installed between pin 1 of the sensor and the positiv (+) lead of the power supply.

If the sensor is subjected to a supply voltage of >20 V without ramp up, a current spike may occur causing the operational amplifier and/or the ASIC to fail.

Do not operate above 30 V max. Due to internal component ratings, the maximum safe operating voltage specification is 30 V.

PRESSURE SENSOR CHARACTERISTICS

Part no.	Pressure ranges	Proof pressure ¹	Burst pressure ²
DC001N...	1 "H ₂ O	100 "H ₂ O	200 "H ₂ O
DC002N...	2 "H ₂ O	100 "H ₂ O	200 "H ₂ O
DC2R5N...	2.5 "H ₂ O	100 "H ₂ O	200 "H ₂ O
DC005N...	5 "H ₂ O	150 "H ₂ O	300 "H ₂ O
DC010N...	10 "H ₂ O	150 "H ₂ O	300 "H ₂ O
DC020N...	20 "H ₂ O	300 "H ₂ O	450 "H ₂ O
DC030N...	30 "H ₂ O	450 "H ₂ O	600 "H ₂ O
DC2R5B...	2.5 mbar	250 mbar	500 mbar
DC005B...	5 mbar	250 mbar	500 mbar
DC010B...	10 mbar	375 mbar	750 mbar
DC025B...	25 mbar	375 mbar	750 mbar
DC050B...	50 mbar	750 mbar	1125 mbar
DC075B...	75 mbar	1125 mbar	1500 mbar

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.

DC...C4 PERFORMANCE CHARACTERISTICS

0.25...4.25 V ratiometric output version ($V_S = 5.0\text{ V}$, $T_A = 25^\circ\text{C}$, pressure applied to port 2)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	DC...G..		0.25		V
	DC...D...		2.25		
Full scale span ³	DC...G..		4.0		V
	DC...D...		±2.0		
Total accuracy (0 - 50 °C) ⁴	DC001N... DC2R5B...		±2.0	±3.0	%FSO
	DC002N..., DC2R5N... DC005B...		±1.5	±2.5	
	all others		±1.0	±2.0	
Offset position sensitivity (±1 g)	DC001N... to DC2R5N... DC2R5B..., DC005B...			±10	mV
	DC005N...			±5	
	DC010B...			±5	
	all others			±1	

DC...R4 PERFORMANCE CHARACTERISTICS

0.25...4.25 V regulated output version ($V_S = 15.0\text{ V}$, $T_A = 25^\circ\text{C}$, pressure applied to port 2)

Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	DC...G..		0.25		V
	DC...D...		2.25		
Full scale span ³	DC...G..		4.0		V
	DC...D...		±2.0		
Total accuracy (0 - 50 °C) ⁴	DC001N... DC2R5B...		±2.0	±3.0	%FSO
	DC002N..., DC2R5N... DC005B...		±1.5	±2.5	
	all others		±1.0	±2.0	
Offset position sensitivity (±1 g)	DC001N... to DC2R5N... DC2R5B..., DC005B...			±10	mV
	DC005N...			±5	
	DC010B...			±5	
	all others			±1	

Notes:

³ Full scale span is the algebraic difference between the output voltage at full-scale pressure and the output at zero pressure.

⁴ Total accuracy includes non-linearity, hysteresis, repeatability, zero offset and span error, thermal effect on zero offset and span. Non-linearity refers to the **Best Straight Line** fit measured for offset pressure, full-scale pressure and ½ full-scale pressure.

DC...R5 PERFORMANCE CHARACTERISTICS

1...6 V regulated output version ($V_S = 15.0\text{ V}$, $T_A = 25^\circ\text{C}$, pressure applied to port 2)

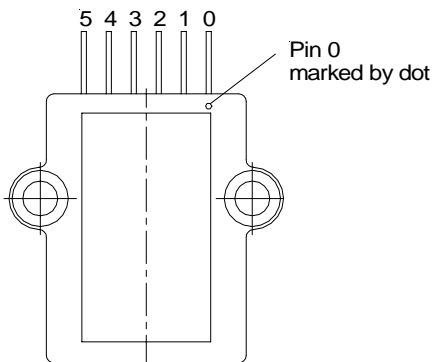
Characteristics		Min.	Typ.	Max.	Unit
Zero pressure offset	DC...G...		1		V
	DC...D...		3.5		
Full scale span ³	DC...G...		5.0		V
	DC...D...		±2.5		
Total accuracy (0 - 50 °C) ⁴	DC001N... DC2R5B...		±2.0	±3.0	%FSO
	DC002N..., DC2R5N... DC005B...		±1.5	±2.5	
	all others		±1.0	±2.0	
Offset position sensitivity (±1 g)	DC001N... to DC2R5N... DC2R5B..., DC005B...			±10	mV
	DC005N... DC010B...			±5	
	all others			±1	

Notes:

³ Full scale span is the algebraic difference between the output voltage at full-scale pressure and the output at zero pressure.

⁴ Total accuracy includes non-linearity, hysteresis, repeatability, zero offset and span error, thermal effect on zero offset and span. Non-linearity refers to the **Best Straight Line** fit measured for offset pressure, full-scale pressure and ½ full-scale pressure.

ELECTRICAL CONNECTION

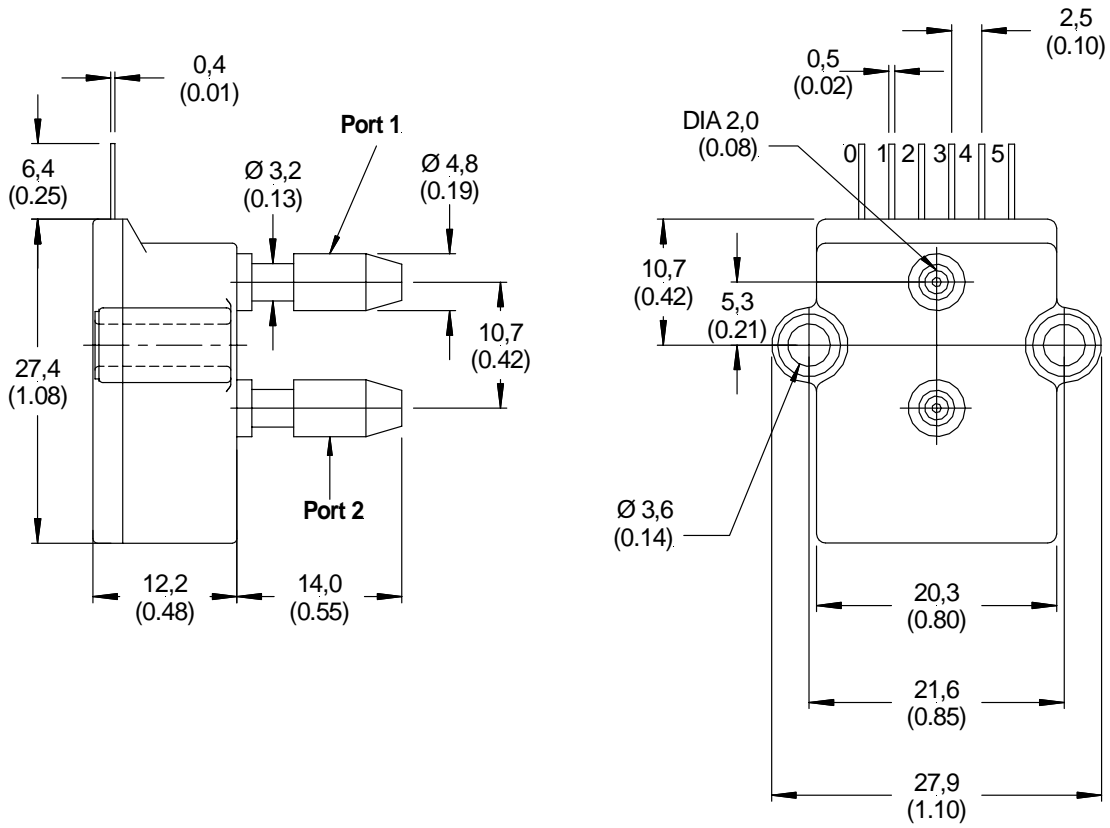


Pin no.	Output version		
	DC...C4 (4 Pin) 0.25...4.25 V ratiometric	DC...R4 (6 Pin) 0.25...4.25 V regulated	DC...R5 (6 Pin) 1...6 V regulated
0	no pin	N / C	N / C
1	+Vs	+Vs	+Vs
2	GND	GND	GND
3	Vout	Vout	Vout
4	I / C*	I / C*	I / C*
5	no pin	N / C	N / C

* Do not use for any reason

Note: The polarity indicated is for pressure applied to port 2

OUTLINE DRAWING



mass: approx. 10 g

dimensions mm (inches)

ORDERING INFORMATION

Pressure range	Output		
	0.25...4.25 V ratiometric	0.25...4.25 V regulated	1...6 V regulated
Differential/Gage 0 to 1 "H ₂ O 0 to 2 "H ₂ O 0 to 2.5 "H ₂ O 0 to 5 "H ₂ O 0 to 10 "H ₂ O 0 to 20 "H ₂ O 0 to 30 "H ₂ O	DC001NGC4 DC002NGC4 --- ⁶ DC005NGC4 DC010NGC4 DC020NGC4 DC030NGC4	DC001NGR4 DC002NGR4 --- ⁶ DC005NGR4 --- ⁶ --- ⁶ DC030NGR4	DC001NGR5 --- ⁶ --- ⁶ DC005NGR5 DC010NGR5 --- ⁵ DC030NGR5
Differential (Pressure/vacuum) 0 to ±1 "H ₂ O 0 to ±2 "H ₂ O 0 to ±2.5 "H ₂ O 0 to ±5 "H ₂ O 0 to ±10 "H ₂ O 0 to ±20 "H ₂ O 0 to ±30 "H ₂ O	DC001NDC4 DC002NDC4 DC2R5NDC4 DC005NDC4 DC010NDC4 DC020NDC4 DC030NDC4	DC001NDR4 DC002NDR4 DC2R5NDR4 DC005NDR4 DC010NDR4 DC020NDR4 DC030NDR4	DC001NDR5 DC002NDR5 DC2R5NDR5 DC005NDR5 DC010NDR5 DC020NDR5 DC030NDR5
Differential/Gage 0 to 2.5 mbar 0 to 5 mbar 0 to 10 mbar 0 to 25 mbar 0 to 50 mbar 0 to 75 mbar	--- ⁶ --- ⁶ --- ⁶ DC025BGC4 DC050BGC4 --- ⁶	--- ⁶ --- ⁶ --- ⁶ --- ⁶ --- ⁶ --- ⁶	--- ⁶ --- ⁶ --- ⁶ --- ⁶ --- ⁶ --- ⁶
Differential (Pressure/vacuum) 0 to ±2.5 mbar 0 to ±5 mbar 0 to ±10 mbar 0 to ±25 mbar 0 to ±50 mbar 0 to ±75 mbar	DC2R5BDC4 DC005BDC4 DC010BDC4 DC025BDC4 DC050BDC4 DC075BDC4	--- ⁶ --- ⁶ DC010BDR4 DC025BDR4 DC050BDR4 DC075BDR4	DC2R5BDR5 --- ⁶ DC010BDR5 DC025BDR5 DC050BDR5 DC075BDR5

Note

⁶ **These devices are available on special request. Minimum order quantity may apply.**

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