FEATURES

- **Ranges from 1 to 30 "H_2O 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**

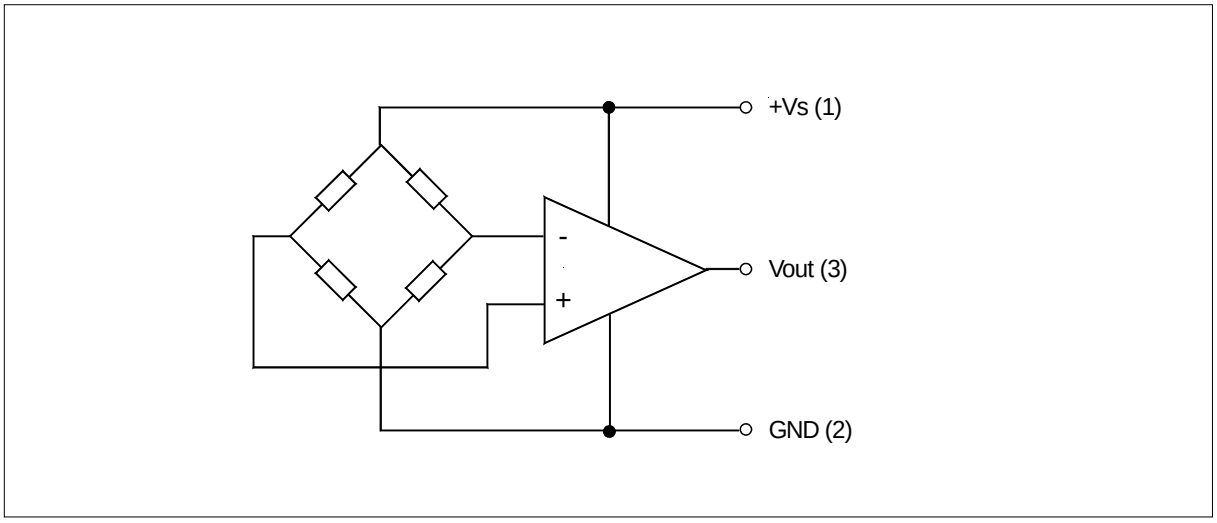
SERVICE

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 (Al_2O_3)

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 µA

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_2O	100 "H_2O	200 "H_2O
DC002N...	2 "H_2O	100 "H_2O	200 "H_2O
DC2R5N...	2.5 "H_2O	100 "H_2O	200 "H_2O
DC005N...	5 "H_2O	150 "H_2O	300 "H_2O
DC010N...	10 "H_2O	150 "H_2O	300 "H_2O
DC020N...	20 "H_2O	300 "H_2O	450 "H_2O
DC030N...	30 "H_2O	450 "H_2O	600 "H_2O
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 V, T_A = 25°C, pressure applied to port 2)

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

DC...R4 PERFORMANCE CHARACTERISTICS

0.25...4.25 V regulated output version (V_S = 15.0 V, T_A = 25°C, pressure applied to port 2)

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

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 **B**est **S**traight **L**ine fit measured for offset pressure, full-scale pressure and ½ full-scale pressure.

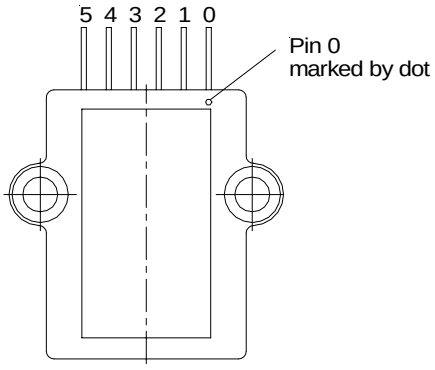
DC...R5 PERFORMANCE CHARACTERISTICS

1...6 V regulated output version (V_S = 15.0 V, T_A = 25°C, pressure applied to port 2)

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

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 **B**est **S**traight **L**ine fit measured for offset pressure, full-scale pressure and ½ full-scale pressure.

ELECTRICAL CONNECTION

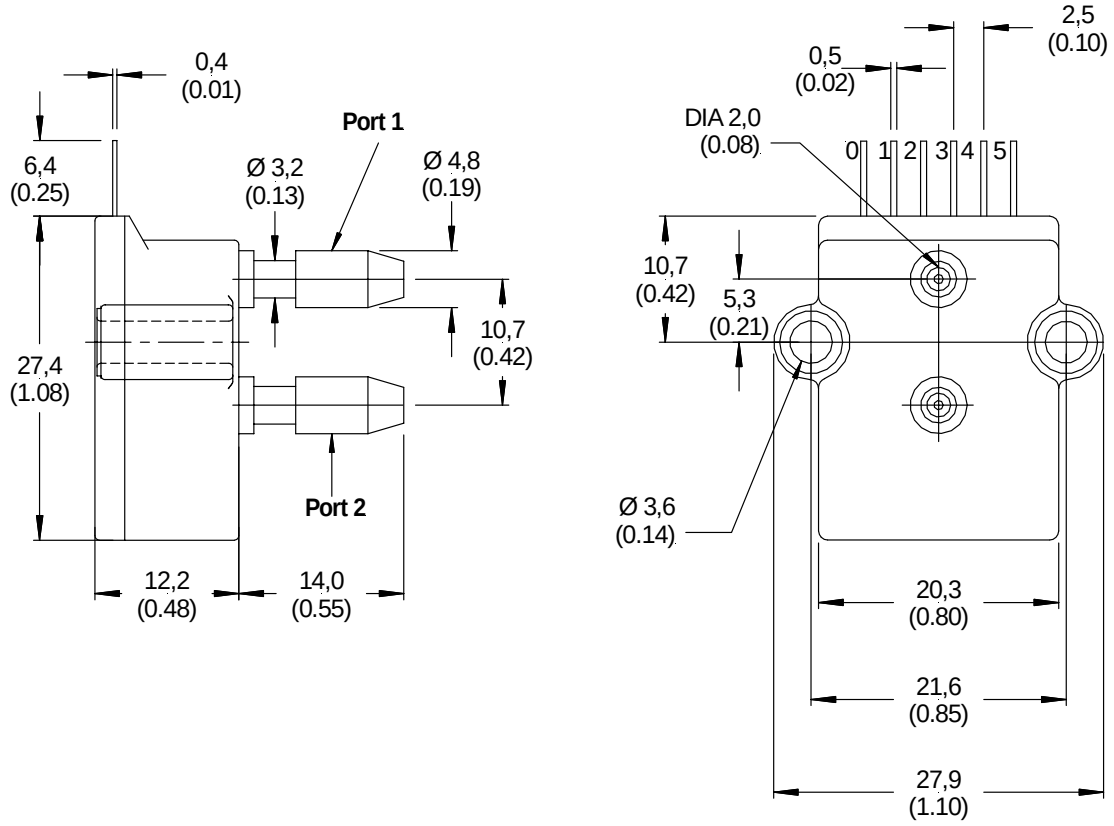


Pin no.	Output version		
	DC...**C4** (4 Pin) 0.25...4.25 V ratiometric	DC...**R4** (6 Pin) 0.25...4.25 V regulated	DC...**R5** (6 Pin) 1...6 V regulated
0	no pin	N / C	N / C
1	+Vs	+Vs	+Vs
2	GND	GND	GND
3	Vout	Vout	Vout
4	I / C*	I / C*	I / C*
5	no pin	N / C	N / C

*** 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_2O	DC001NGC4	DC001NGR4	DC001NGR5
0 to 2 "H_2O	DC002NGC4	DC002NGR4	---[6]
0 to 2.5 "H_2O	---[6]	---[6]	---[6]
0 to 5 "H_2O	DC005NGC4	DC005NGR4	DC005NGR5
0 to 10 "H_2O	DC010NGC4	---[6]	DC010NGR5
0 to 20 "H_2O	DC020NGC4	---[6]	---[5]
0 to 30 "H_2O	DC030NGC4	DC030NGR4	DC030NGR5
Differential (Pressure/vacuum)			
0 to ±1 "H_2O	DC001NDC4	DC001NDR4	DC001NDR5
0 to ±2 "H_2O	DC002NDC4	DC002NDR4	DC002NDR5
0 to ±2.5 "H_2O	DC2R5NDC4	DC2R5NDR4	DC2R5NDR5
0 to ±5 "H_2O	DC005NDC4	DC005NDR4	DC005NDR5
0 to ±10 "H_2O	DC010NDC4	DC010NDR4	DC010NDR5
0 to ±20 "H_2O	DC020NDC4	DC020NDR4	DC020NDR5
0 to ±30 "H_2O	DC030NDC4	DC030NDR4	DC030NDR5
Differential/Gage			
0 to 2.5 mbar	---[6]	---[6]	---[6]
0 to 5 mbar	---[6]	---[6]	---[6]
0 to 10 mbar	---[6]	---[6]	---[6]
0 to 25 mbar	DC025BGC4	---[6]	---[6]
0 to 50 mbar	DC050BGC4	---[6]	---[6]
0 to 75 mbar	---[6]	---[6]	---[6]
Differential (Pressure/vacuum)			
0 to ±2.5 mbar	DC2R5BDC4	---[6]	DC2R5BDR5
0 to ±5 mbar	DC005BDC4	---[6]	---[6]
0 to ±10 mbar	DC010BDC4	DC010BDR4	DC010BDR5
0 to ±25 mbar	DC025BDC4	DC025BDR4	DC025BDR5
0 to ±50 mbar	DC050BDC4	DC050BDR4	DC050BDR5
0 to ±75 mbar	DC075BDC4	DC075BDR4	DC075BDR5

Note

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