

Model 82 Low Pressure



- 316L SS Pressure Sensor
- 19mm Diameter Package
- 0 - 100mV Output
- Absolute and Gage Low Pressure
- Temperature Compensated

DESCRIPTION

The Model 82 Low Pressure is a 19 mm small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The Model 82 Low Pressure is designed for o-ring mounting and OEM applications where compatibility with corrosive media is required.

The sensing package utilizes silicone oil to transfer pressure from the 316L stainless steel diaphragm to the sensing element. A ceramic substrate is attached to the package that contains laser-trimmed resistors for temperature compensation and offset correction. An additional laser-trimmed resistor is included which can be used to adjust an external differential amplifier and provide span interchangeability to within $\pm 1\%$.

Please refer to the Model 82 UltraStable™ datasheet for information on products with operating pressures greater than 5 psi.

FEATURES

- O-Ring Mount
- -20°C to +70°C Operating Temperature Range
- $\pm 0.2\%$ Pressure Non Linearity
- 1.0% Interchangeable Span (provided by gain set resistor)
- Solid State Reliability

APPLICATIONS

- Medical Instruments
- Process Control
- Fresh & Waste Water Measurements
- Partial Vacuum Gas Measurement
- Pressure Transmitters
- Tank Level Systems (RV & Industrial)

STANDARD RANGES

Range	psia	psig
0 to 1		•
0 to 5	•	•

Model 82 Low Pressure

PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA

Ambient Temperature: 25°C (unless otherwise specified)

Parameters are specified for the compensated versions only

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Span	50	100	150	mV	1
Zero Pressure Output	-2		2	mV	
Pressure Non Linearity	-0.2		0.2	%Span	2
Pressure Hysteresis	-0.10	±0.02	0.10	%Span	
Repeatability		±0.02		%Span	
Input Resistance	2500	5000	6500	Ω	
Output Resistance	3000		30k	Ω	
Temperature Error – Span	-1.0		1.0	%Span	3
Temperature Error – Offset	-1.0		1.0	%Span	3
Thermal Hysteresis – Span	-0.25	±0.05	0.25	%Span	3
Thermal Hysteresis – Offset	-0.25	±0.05	0.25	%Span	3
Long Term Stability – Span		±0.1		%Span	4
Long Term Stability – Offset		±0.25		%Span	4
Supply Current	0.5	1.5	2.0	mA	
Insulation Resistance (50Vdc)	50			MΩ	5
Pressure Overload			20	psi	6
Compensated Temperature (1 psi)	0		50	°C	
Compensated Temperature (5 psi)	0		70	°C	
Operating Temperature	-20		+70	°C	
Storage Temperature	-50		+125	°C	7
Weight			12	grams	
Media – Pressure Port	Liquids and Gases compatible with 316L Stainless Steel and Buna-N				8
Media – Reference Port	Compatible with Silicon, Pyrex, Gold, Fluorosilicone RTV and 316L Stainless Steel				

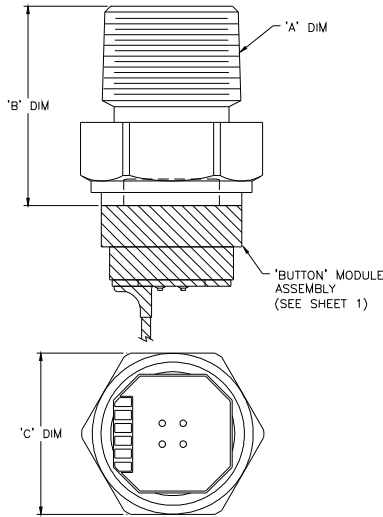
Notes

1. Ratiometric to supply current.
2. Best fit straight line.
3. Maximum temperature error within the compensated temperature range with respect to 25°C.
4. Long term stability over a one year period with constant current and temperature.
5. Minimum resistance between case and pins.
6. 10 psi maximum for 1 psi devices.
7. Maximum temperature range for product with standard cable and connector is -20°C to +105°C.
8. Gage units not recommended for high vacuum applications. For high vacuum applications consult factory.

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DIMENSIONS

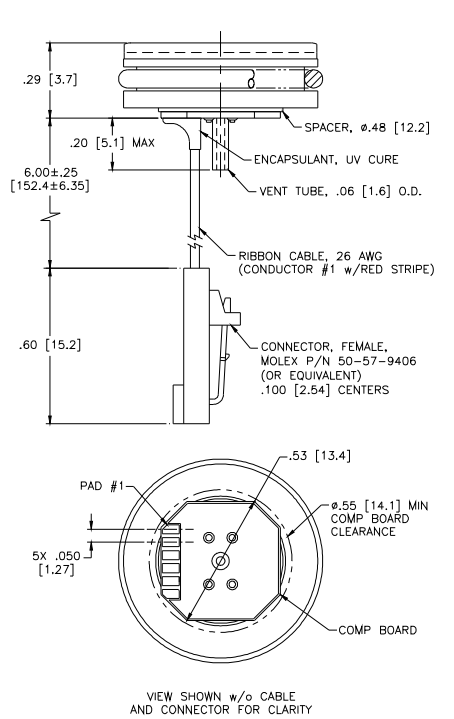
w/PROCESS FITTING OPTIONS



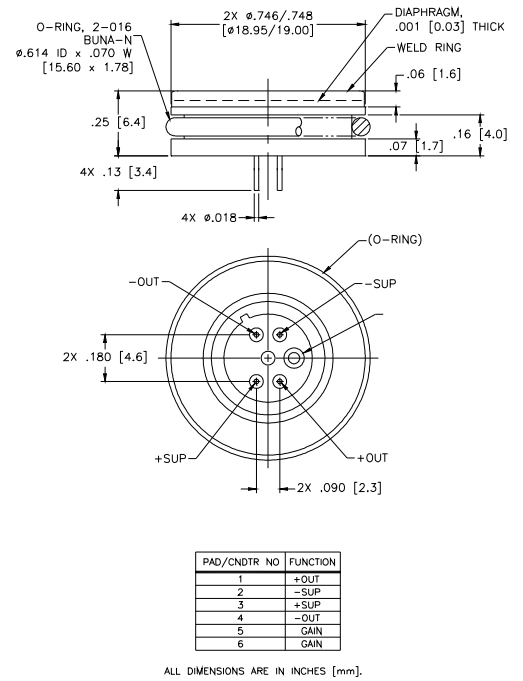
FITTING DIMENSIONS			
FTG TYPE	'A' DIM	'B' DIM	'C' DIM
1	1/4-18 NPT	1.00 [25.4]	7/8 [22.2] HEX
2	1/8-27 NPT	.99 [25.0]	7/8 [22.2] HEX
3	7/16-20 UNF	.84 [19.4]	7/8 [22.2] HEX
4	1/4-18 NPT	.77 [19.6]	5/8 [15.9] HEX
5	1/4-19 BSP	.82 [20.8]	3/4 [19.0] HEX
8	1/8-27 NPT	.64 [16.3]	5/8 [15.9] HEX
9	1/4-19 BSP	.96 [24.4]	7/8 [22.2] HEX

NOTE: FTG TYPE '4' ASSEMBLY SHOWN
ALL DIMS ARE FOR REFERENCE ONLY

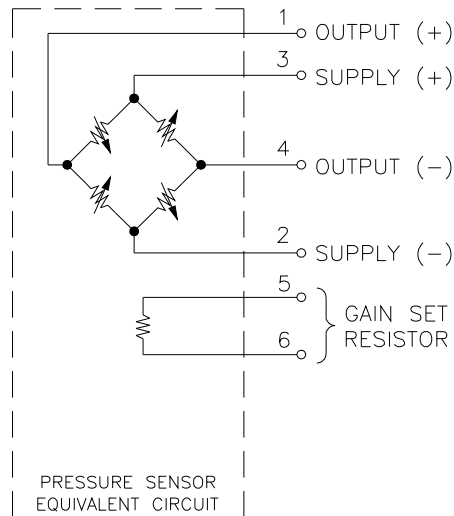
w/BACK END OPTIONS



BASIC SENSING ELEMENT

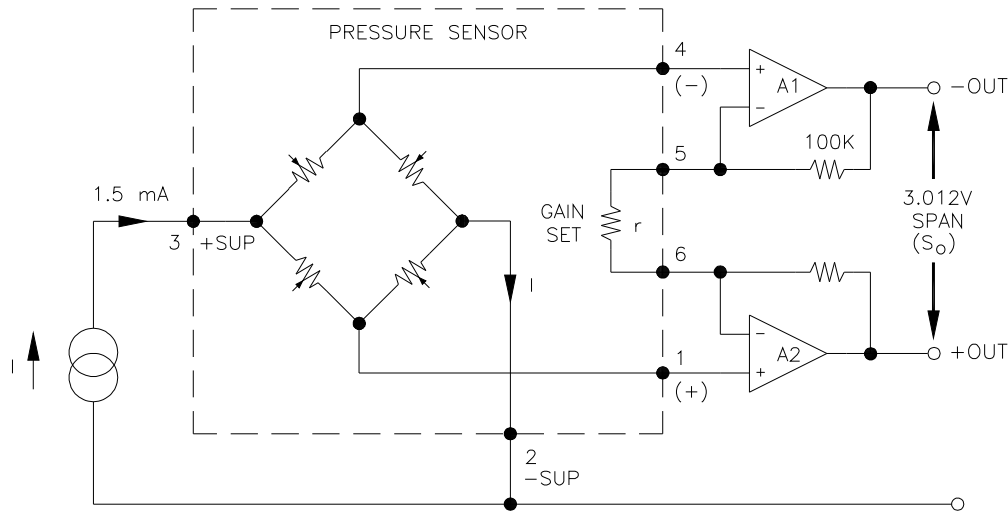


CONNECTIONS



Model 82 Low Pressure

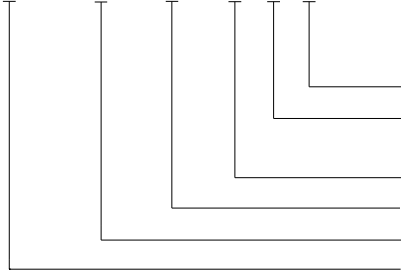
APPLICATION SCHEMATIC



APPLICATION SCHEMATIC

ORDERING INFORMATION

82 - 005 G - 0 C T



Vent (T = Tube, Blank = No Tube)
 Electrical (C = Ribbon Cable with Connector, R = Ribbon Cable, P = Solder Pads, L = Leads, Uncompensated)
 Fitting Type (0 = Weldable)
 Type (A = Absolute, G = Gage)
 Pressure Range
 Model

NORTH AMERICA

Measurement Specialties
 45738 Northport Loop West
 Fremont, CA 94538
 Tel: 1-800-767-1888
 Fax: 1-510-498-1578
 Sales: pfg.cs.amer@meas-spec.com

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 78340 Les Clayes-sous-Bois, France
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 Shenzhen High-Tech Park (North)
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