

316L SS Pressure Sensor
High Performance
0-100 mV Output
Absolute and Sealed Gage
High Pressure

- ▶ Hydraulic Controls
- ▶ Process Control
- ▶ Robotics
- ▶ Oceanography
- ▶ Refrigeration/Compressors
- ▶ Pressure Transmitters



DESCRIPTION

The Model 97 is a small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The sensing package utilizes silicone oil to transfer pressure from the 316L stainless steel diaphragm to the sensing element.

The Model 97 is designed for high performance, high pressure applications. 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 $\pm 1\%$.

For low pressure flush mount sensors and sensors with other pressure fittings, please contact the factory.

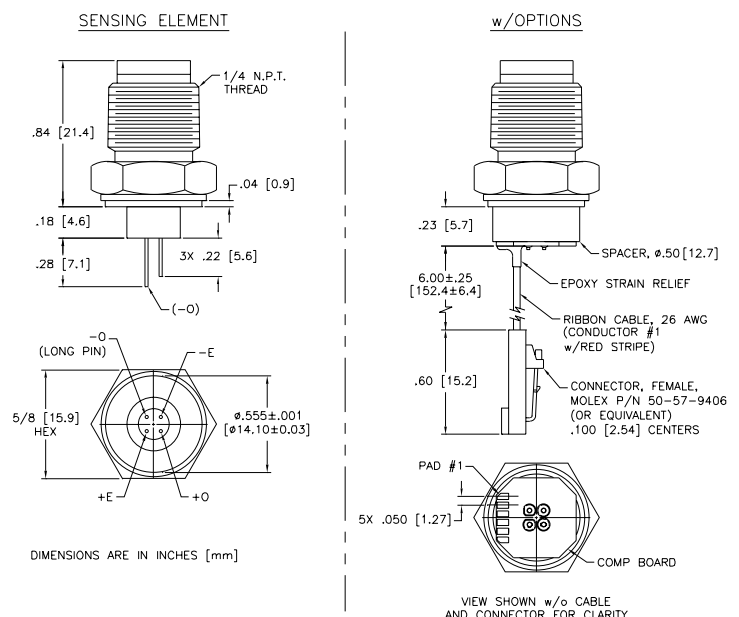
FEATURES

- ▶ 1/4 NPT Thread
- ▶ -20°C to $+85^{\circ}\text{C}$ Compensated Temperature Range
- ▶ $\pm 0.25\%$ Pressure Non-linearity
- ▶ $\pm 1.0\%$ Interchangeable Span (provided by gain set resistor)
- ▶ Solid State Reliability
- ▶ Low Power

STANDARD RANGES

Range	psia	psis
0 to 1000	●	●
0 to 3000	●	●
0 to 5000	●	●

DIMENSIONS



PERFORMANCE SPECIFICATIONS

All parameters specified at 1.5mA and at 25°C, after 10 second warm up, unless otherwise indicated. Unless specifically indicated, only those parameters indicated as tested are verified on each part. Parameters are specified for the compensated version only.

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Full Scale Output Span	75	100	125	mV	1
Zero Pressure Output (Offset)	-1	0	1	mV	2
Pressure Non Linearity	-0.25		0.25	±% Span	3
Pressure Hysteresis		50		μV	
Repeatability		0.02		±% Span	
Input and Output Resistance	2000	2750	4000	Ω	
Temperature Error - Span (-20 to +85°C)	-0.75		+0.75	% Span	4
Temperature Error - Offset (-20 to +85°C)	-0.75		+0.75	% Span	4
Thermal Hysteresis - Span		0.05		% Span	4
Thermal Hysteresis - Offset		0.05		% Span	4
Long Term Stability - Span		0.1		±% Span/year	
Long Term Stability - Offset		0.1		±% Span/year	
Supply Current	0.5	1.5	2.0	mA	5
Output Load Resistance	5			MΩ	6
Insulation Resistance (50 VDC)	50			MΩ	7
Pressure Overload			3X	Rated	8
Compensated Temperature Range	-20°C to +85°C				9
Operating Temperature Range	-40°C to +125°C				9
Storage Temperature Range	-50°C to +125°C				9
Media - Pressure Port	Liquids and Gases compatible with 316L Stainless Steel				
Media - Reference Port	Liquids and Gases. Compatible with Silicon, Pyrex, Gold, Fluorosilicone Rubber and 316L Stainless Steel				
Weight	27 g				10

- Notes**

 - For amplified output circuits see application note TN-003.
 - Measured at vacuum for absolute (A) and one atmosphere for sealed gage (S).
 - Best fit straight line.
 - Over temperature range -20°C to +85°C, % span, with respect to +25°C.
 - Guarantees output/input ratiometricity.
- Load resistance to reduce measurement errors due to output loading.
 - Between case and sensing element.
 - 3X rated or 10,000 psi, whichever is less.
 - Maximum temperature specification for product with cable and connector is -20°C to 105°C.
 - Weight depends upon configuration (cable, connector, pressure fitting).

ORDERING INFORMATION

97 - 5000 S - 4 C

- Electrical (C = Ribbon Cable with Connector, P = Solder Pads, R = Ribbon Cable, L = Leads, Uncompensated)
- Pressure Port (4 = 1/4 NPT)
- Type (A = Absolute, S = Sealed Gage)
- Pressure Range (1000 to 5000 psi)
- Model

For other pressure fittings and electrical connections contact factory.

CONNECTIONS

PAD NO. / CABLE	FUNCTION
1	+OUT
2	-EX
3	+EX
4	-OUT
5	GAIN SET
6	GAIN SET

APPLICATION SCHEMATIC

