

Model 85 Flush Mount Pressure Sensor

316L SS

High Performance, Small Profile

0-100 mV Output

Absolute and Gage

Temperature Compensated

DESCRIPTION

The **Model 85 Flush Mount** is a small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. It is designed for O-ring mounting where the diaphragm must not be shrouded by weld ring or fitting. The sensing package utilizes silicone oil to transfer pressure from the 316L stainless steel diaphragm to the sensing element. The rugged design can handle pressure spikes to 3X rated pressure in normal operating mode.

The Model 85 Flush Mount is designed for high performance, low-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 +/-1%.



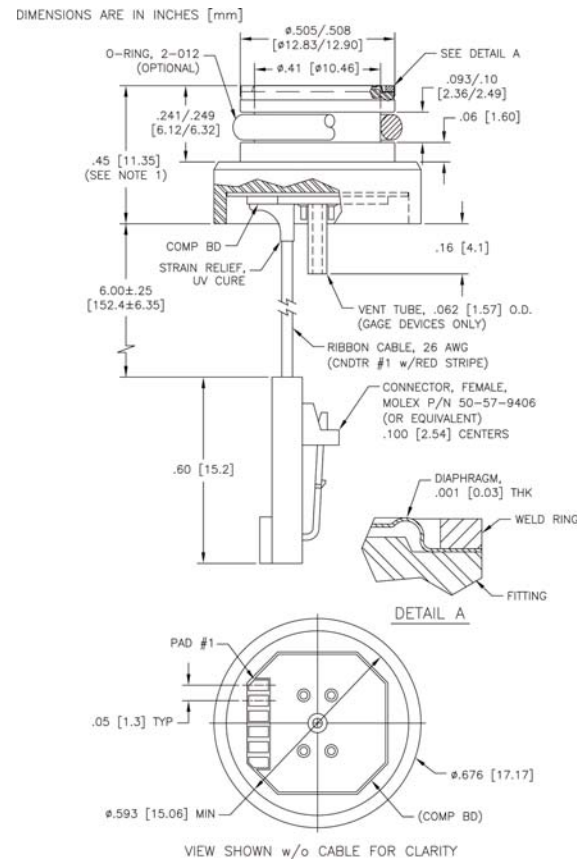
FEATURES

- ◆ O-ring Flush Mount
- ◆ -20°C to +125°C Operating Temperature Range
- ◆ ±0.1% Pressure Non-linearity
- ◆ ±0.75% Temperature Performance
- ◆ ±1.0% Interchangeable Span (provided by gain set resistor)
- ◆ Solid State Reliability
- ◆ Low Power

APPLICATIONS

- ◆ Dialysis Machines
- ◆ Infusion Pumps
- ◆ Medical Systems
- ◆ Pressure Transmitters
- ◆ Level Systems

dimensions



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performance specifications

All parameters measured at 1.5mA drive and at 25°C after 10 second warm up, unless otherwise specified. Parameters are specified for the compensated version only.

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Full Scale Output Span	65	100	150	mV	1,2
Zero Offset	-2	0	2	mV	2
Pressure Non-linearity	-0.10		0.10 %	% Span	3
Pressure Hysteresis	-0.05	±0.02	0.05	% Span	
Repeatability		±0.02		% Span	
Input Resistance	2000	3500	5800	Ω	
Output Resistance	4000		25000	Ω	
Temperature Error - Span (0 to 70°C)	-0.75		0.75	% Span	4
Temperature Error - Zero (0 to 70°C)	-0.75		0.75	% Span	4
Thermal Hysteresis - Span		±0.05		% Span	4
Thermal Hysteresis - Zero		±0.05		% Span	4
Long Term Stability of Offset		±0.1		% Span/yr.	
Long Term Stability of Span		±0.1		% Span/yr.	
Supply Current	0.5	1.5	2.0	mA	5
Output Load Resistance	5			Ω	6
Insulation Resistance (50 VDC)	50			Ω	7
Pressure Overload			3X	Rated	
Compensated Temperature Range	-0°C to +70°C				8
Operating Temperature Range	-20°C to +125°C				8
Storage Temperature Range	-50°C to +125°C				8
Media - Pressure Port	Liquids and Gases compatible with 316L Stainless Steel				
Media - Reference Port	Compatible with Silicon, Pyrex, Gold, Fluorosilicon Rubber and 316L Stainless Steel				
Weight	13 grams				9

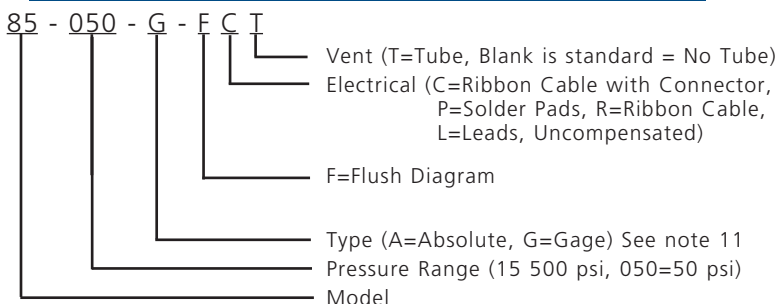
Notes

- For amplified output circuits, 3.012V ± 1% interchangeability with gain setresistor. See Application Note TN-003.
- Measured at vacuum for absolute (A), ambient for gage (G).
- Best fit straight line.
- Over Temperature range: 0°C to +70°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.
- Maximum temperature range for product with standard cable and connector is -20°C to +105°C.
- Weight depends upon configuration (cable, connector).
- For gage units used at pressures below atmosphere, the span accuracy is not guaranteed.
- Standard gage units are not recommended for vacuum applications. For vacuum applications below 1/2 atmosphere, contact factory.

standard ranges

Range	psig	psia
0 to 15	•	•
0 to 30	•	•
0 to 50	•	•
0 to 100	•	•
0 to 300	•	•
0 to 500	•	•

ordering information



connections

Pad/Cable No.	Function
1	+OUT
2	-EX
3	+EX
4	-OUT
5	GAIN
6	GAIN

application schematic

