



- 316L SS Pressure Sensor
- Small Profile
- 0 100mV Output
- Absolute and Gage
- Temperature Compensated

DESCRIPTION

The 86 compensated is a small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The 86 compensated is designed for o-ring mounting and OEM applications where compatibility with corrosive media is required.

The sensing package utilizes silicon 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 ±1%.

Please refer to the 86 uncompensated and constant voltage datasheets for more information on different features of the 86.

FEATURES

- O-Ring Mount
- -40°C to +125°C Operating Temperature Range
- ±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	psig	psia
0 to 5	•	•
0 to 15	•	•
0 to 30	•	•
0 to 50	•	•
0 to 100	•	•
0 to 300	•	•
0 to 500	•	•



PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA

Ambient Temperature: 25°C (unless otherwise specified)

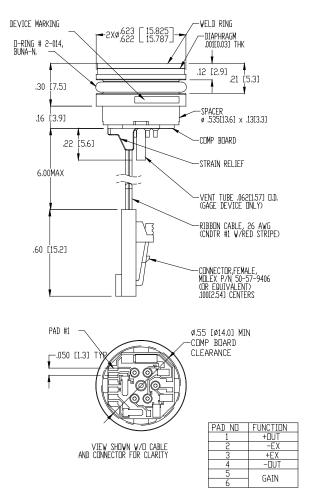
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PARAMETERS	MIN	TYP	MAX	MIN	TYP	MAX	UNITS	NOTES	
Span	50	100	150	75	100	150	mV	1	
Zero Pressure Output	-2.0	0	2.0	-1.0	0	1.0	mV	2	
Pressure Non Linearity	-0.2		0.2	-0.1		0.1	%Span	3	
Pressure Hysteresis	-0.10	±0.02	0.10	-0.05	±0.02	0.05	%Span		
Repeatability		±0.02			±0.02		%Span		
Input Resistance	2.5K	5.0K	6.5K	2.0K	3.5K	5.8K	Ω		
Output Resistance	4.0K		7.0K	4.0K		6.0K	Ω		
Temperature Error – Span	-1.0		1.0	-0.75		0.75	%Span	4	
Temperature Error – Offset	-1.5		1.5	-0.50		0.50	%Span	4, 5	
Thermal Hysteresis – Span	-0.25	±0.05	0.25	-0.25	±0.05	0.25	%Span	4	
Thermal Hysteresis – Offset	-0.25	±0.05	0.25	-0.25	±0.05	0.25	%Span	4	
Long Term Stability – Span		±0.10			±0.10		%Span/Year		
Long Term Stability - Offset		±0.25			±0.10		%Span/Year		
Supply Current	0.5	1.5	2.0	0.5	1.5	2.0	mA	6	
Output Load Resistance	5M			5M			Ω	7	
Insulation Resistance (50Vdc)	50M			50M			Ω	8	
Output Noise (10Hz to 1KHz)		1.0			1.0		uV p-p		
Response Time (10% to 90%)		0.1			0.1		ms		
Pressure Overload			3X			3X	Rated		
Pressure Burst			4X			4X	Rated	9	
Compensated Temperature	0		50	-20		+85	°C		
Operating Temperature	-20		+70	-40		+125	°C	10	
Storage Temperature	-50		+125	-50		+125	°C	10	
Media – Pressure Port	Liquids and Gases compatible with 316/316L Stainless Steel								
Media – Reference Port	Compatible with Silicon, Pyrex, Gold, Fluorosilicone Rubber, and 316/316L Stainless Steel								

Notes

- 1. For amplified output circuits, 3.012V ±1% interchangeability with gain set resistor. See application schematic.
- 2. Measured at vacuum for absolute (A) and at ambient for gage (G).
- Best fit straight line.
- 4. Over the compensated temperature range with respect to 25°C.
- 5. 15-psi range sensors have a temperature error of °0.75% (max) of zero from -20°C to +85°C.
- 6. Guarantees output/input ratiometricity.
- 7. Load resistance to reduce measurement errors due to output loading.
- 8. Between case and sensing element.
- 9. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.
- 10. Maximum temperature range for product with standard cable and connector is -20°C to +105°C.

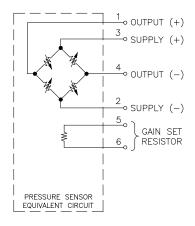


DIMENSIONS



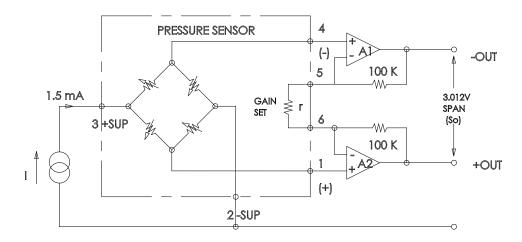
DIMENSIONS ARE IN INCHES [mm]

CONNECTIONS

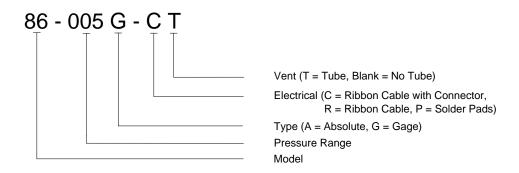




APPLICATION SCHEMATIC



ORDERING INFORMATION



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