

87N UltraStable™



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

DESCRIPTION

The 87N UltraStable™ is a small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The 87N UltraStable™ is offered in a weldable package.

The 87N UltraStable™ is designed for high pressure 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 $\pm 1\%$.

FEATURES

- Weldable and Threaded Process Fittings
- -20°C to +85°C Compensated Temperature Range
- $\pm 0.25\%$ Pressure Non Linearity
- 1.0% Interchangeable Span (provided by gain set resistor)
- Solid State Reliability

APPLICATIONS

- Hydraulic Controls
- Process Control
- Pressure Calibrators
- Refrigeration/Compressors

STANDARD RANGES

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

PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA

Ambient Temperature: 25°C (unless otherwise specified)

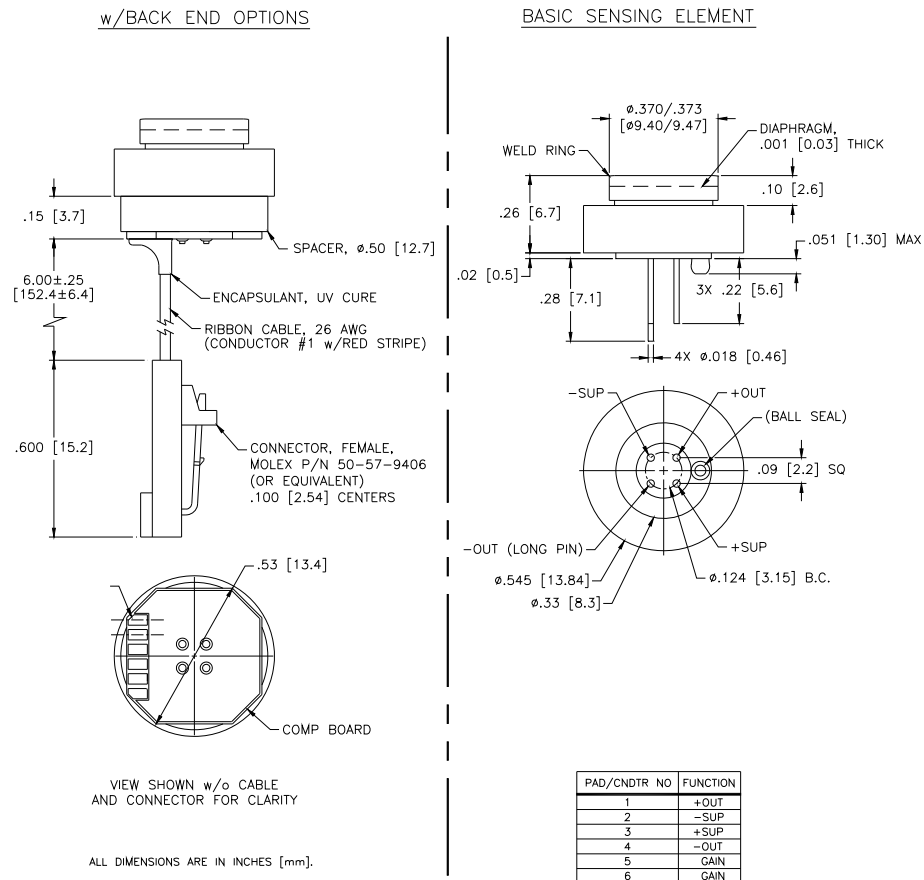
Parameters are specified for the compensated versions only

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Span	75	100	150	mV	1
Zero Pressure Output	-1		1	mV	
Pressure Non Linearity	-0.25		0.25	%Span	2
Pressure Hysteresis		±0.05		%Span	
Repeatability		±0.02		%Span	
Input Resistance	2000	2750	4000	Ω	
Output Resistance	4000		25k	Ω	
Temperature Error – Span	-0.75		0.75	%Span	3
Temperature Error – Offset	-0.75		0.75	%Span	3
Thermal Hysteresis – Span		±0.05		%Span	3
Thermal Hysteresis – Offset		±0.05		%Span	3
Long Term Stability – Span		±0.1		%Span	4
Long Term Stability – Offset		±0.1		%Span	4
Supply Current	0.5	1.5	2.0	mA	
Insulation Resistance (50Vdc)	50			MΩ	5
Pressure Overload			3X	Rated	6
Compensated Temperature	-20		+85	°C	
Operating Temperature	-40		+125	°C	7
Storage Temperature	-50		+125	°C	7
Weight			9	grams	
Media – Pressure Port	Liquids and Gases compatible with 316L Stainless Steel				

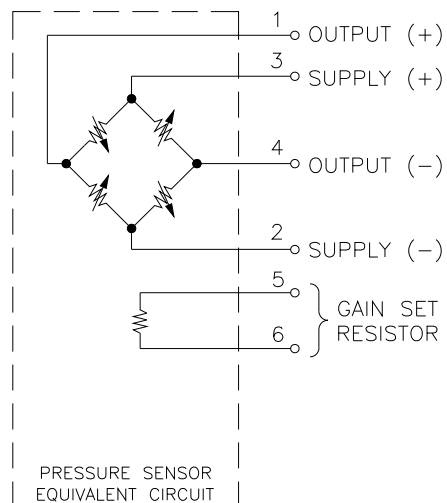
Notes

1. Ratiometric to supply current.
2. Best fit straight line.
3. Maximum temperature error between -20°C and +85°C 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. 2X maximum for 5000 psi devices.
7. Maximum temperature range for product with standard cable and connector is -20°C to +105°C.

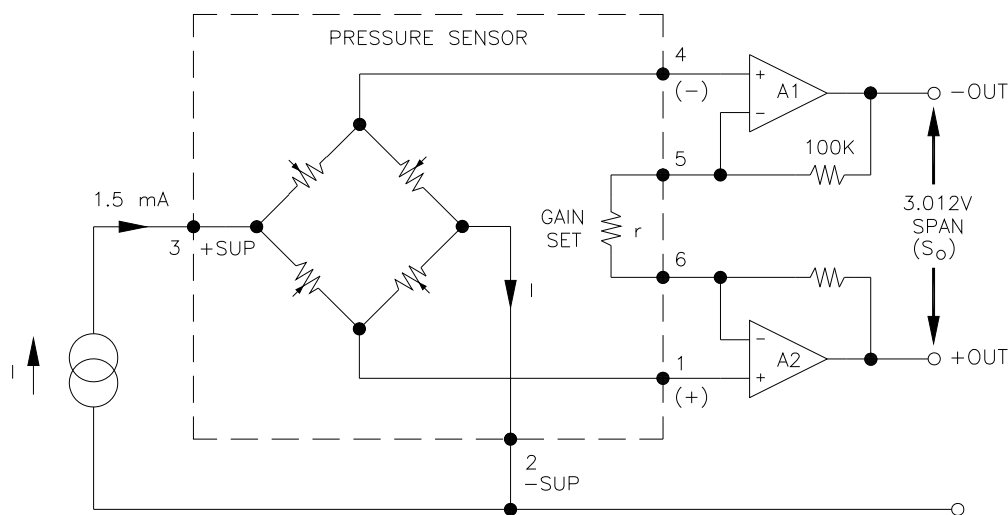
DIMENSIONS



CONNECTIONS



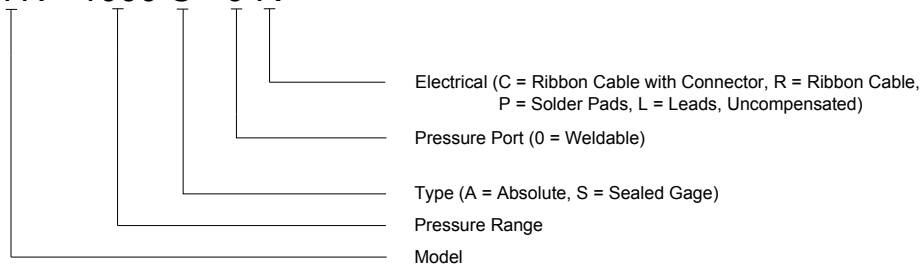
APPLICATION SCHEMATIC



APPLICATION SCHEMATIC

ORDERING INFORMATION

87N - 1000 S - 0 R



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