

86 Uncompensated



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



DESCRIPTION

The 86 uncompensated is a small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The 86 uncompensated 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.

Please refer to the 86 compensated 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
- $\pm 0.2\%$ 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	psig	psia
0 to 5	•	•
0 to 15	•	•
0 to 30	•	•
0 to 50	•	•
0 to 100	•	•
0 to 300	•	•
0 to 500	•	•

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PERFORMANCE SPECIFICATIONS

Supply Current: 1.5mA

Ambient Temperature: 25°C (unless otherwise specified)

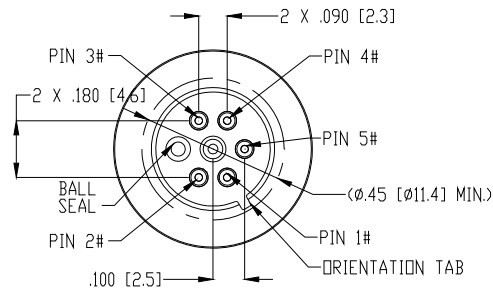
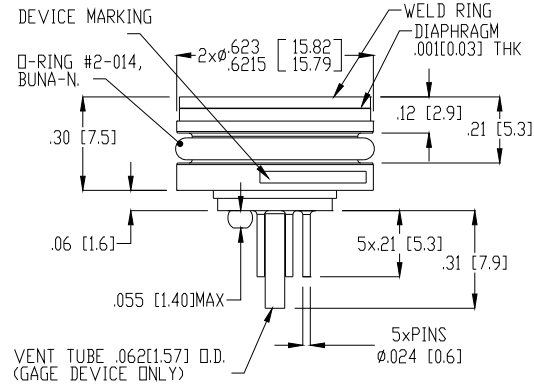
PARAMETERS	005PSIA			005PSIG & ≥015PSI			UNITS	NOTES
	MIN	TYP	MAX	MIN	TYP	MAX		
Sensitivity	12	15	18	12		27	mV/V@Span	
Zero Pressure Output	-10		10	-6.0		8.0	mV/V	1
Pressure Non Linearity	-0.2		0.2	-0.1		0.1	%Span	2
Pressure Hysteresis	-0.10		0.10	-0.05		0.05	%Span	
Repeatability		±0.02			±0.02		%Span	
Bridge Resistance	4.0K	5.0K	6.0K	3.8K		5.8K	Ω	3
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
Temp. Coefficient – Resistance		2.4K		1.30K	1.51K	1.75K	PPM/°C	4
Temp. Coefficient – Span		-2.0K		-1.45K	-1.25K	-1.0K	PPM/°C	4
Temp. Coefficient – Offset	-30		30	-30		30	μV/V/°C	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	
Supply Voltage		5	-5		5	9.5	V	
Output Noise (10Hz to 1KHz)		1.0			1.0		uV p-p	
Response Time (10% to 90%)			0.1			0.1	ms	
Insulation Resistance (50Vdc)	50M			50M			Ω	5
Pressure Overload			3X			3X	Rated	
Pressure Burst			4X			4X	Rated	6
Operating Temperature	-40		+125	-40		+125	°C	
Storage Temperature	-50		+125	-50		+125	°C	
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. Measured at vacuum for absolute (A) and at ambient for gage (G).
2. Non linearity is °0.2 max for 5psiG devices.
3. Bridge resistance is measured with both –E pins shorted together.
4. TC values are first order coefficients to a quadratic fit over a temperature range of -20°C to +85°C (0°C to 50°C for 5psi).
5. Between case and sensing element.
6. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.

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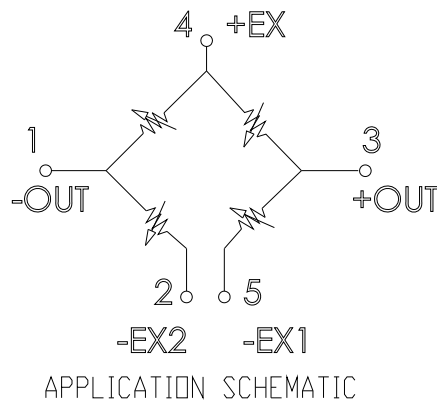
DIMENSIONS



SENSOR PINOUT	
PIN NO.	FUNCTION
1	-OUT
2	-EX2
3	+OUT
4	+EX
5	-EX1

DIMENSIONS ARE IN INCHES [mm]

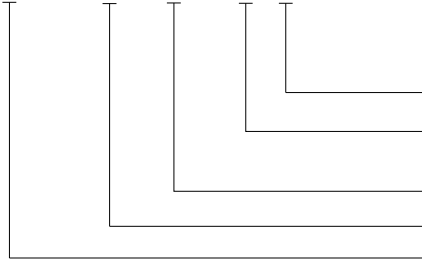
CONNECTIONS



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ORDERING INFORMATION

86 - 050 G - U T



Vent (T = Tube, Blank = No Tube)

Electrical (U = Open Bridge, Uncomp)

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

EUROPE

Measurement Specialties
(Europe), Ltd.
26 Rue des Dames
78340 Les Clayes-sous-Bois, France
Tel: +33 (0) 130 79 33 00
Fax: +33 (0) 134 81 03 59
Sales: pfg.cs.emea@meas-spec.com

ASIA

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No. 26 Langshan Road
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Nanshan District, Shenzhen 518057
China
Tel: +86 755 3330 5088
Fax: +86 755 3330 5099
Sales: pfg.cs.asia@meas-spec.com

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