



## 86 Uncompensated

### SPECIFICATIONS

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

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
- ◆  $\pm 0.2\%$  Pressure Non Linearity
- ◆ 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: 1.5 mA

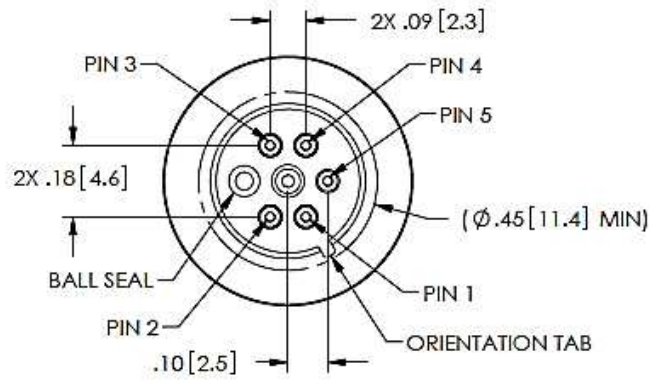
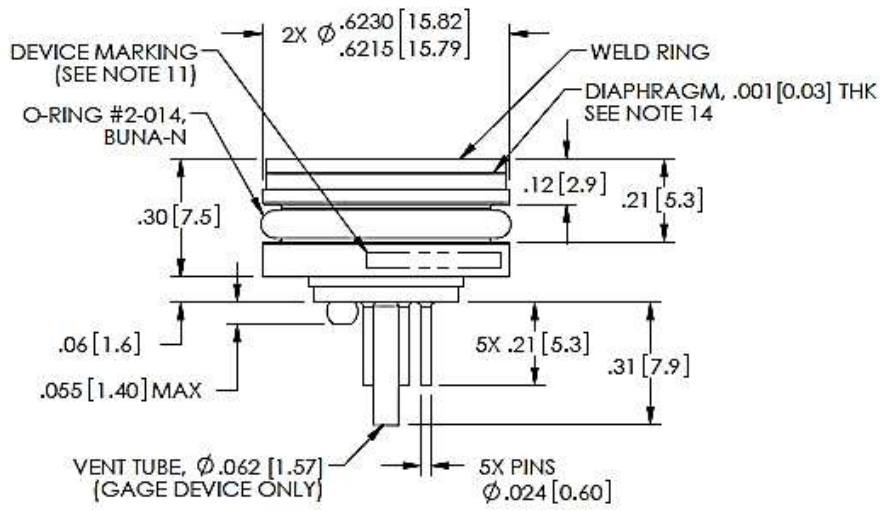
Ambient Temperature: 25°C (unless otherwise specified)

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		-1.65K	-1.25K	-1.0K	PPM/°C	4
Temp. Coefficient – Offset	-80		80	-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	9.5		5	9.5	V	
Output Noise (10Hz to 1KHz)		1.0			1.0		μV p-p	
Response Time (10% to 90%)		0.1			0.1		ms	
Insulation Resistance (50V <sub>DC</sub> )	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							

### Notes

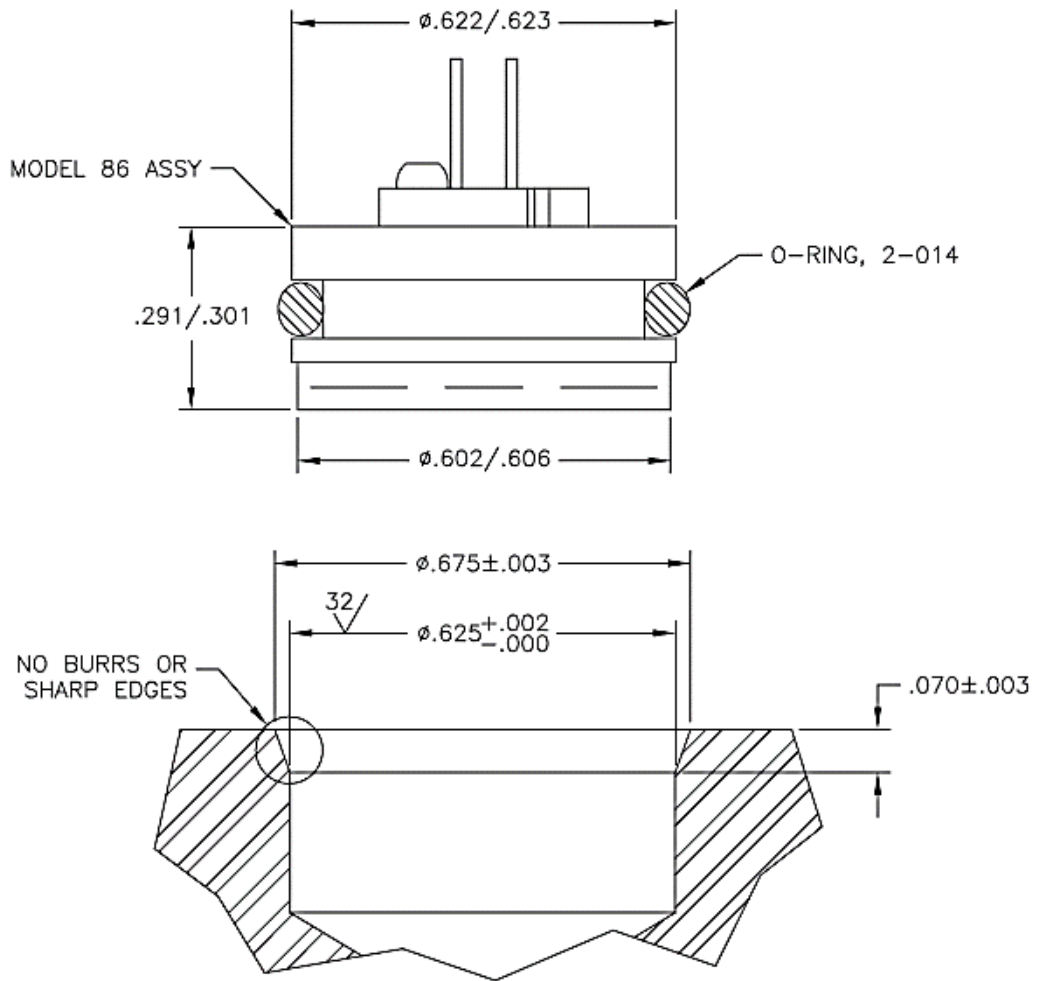
- Measured at vacuum for absolute (A) and at ambient for gage (G).
- Best fit straight line.
- Values for 5 psig devices are as follows:
  - Non linearity: ±0.2% max
  - Pressure hysteresis: -1.10 min, 0.10 max
  - Long term stability (offset): ±0.25 typ
- Bridge resistance is measured with both –E pins shorted together.
- 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).
- Between case and sensing element.
- The maximum pressure that can be applied without changing the transducer's performance or element or transducer
- The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer.
- Standard gage units are not recommended for vacuum applications.
- Testing:
  - Units are not tested over temperature or pressure
  - A final electrical test (@ 1.5mA) is performed to verify parts are electrically alive.
  - All units are subjected to 100% drift test.
- Marking:
  - Part marked with model number, pressure range, type ('A' for absolute, 'G' for gage), lot number, serial number and date code.
- Shipping:
  - The stainless steel diaphragm is protected by a static dissipative cap (no fitting options only). Each unit will be packaged individually in a plastic vial with antistatic foam.
- Product description:
  - Model 86-XXXX-U(T) is a uncompensated micro machined piezoresistive silicon pressure sensor
- Direct mechanical contact with diaphragm is prohibited. Diaphragm surface must remain free of defects (scratches, punctures, dents, fingerprints, etc) for device to operate properly. Caution is advised when handling parts with exposed diaphragms. Use protective cap whenever devices are not in use.

DIMENSIONS

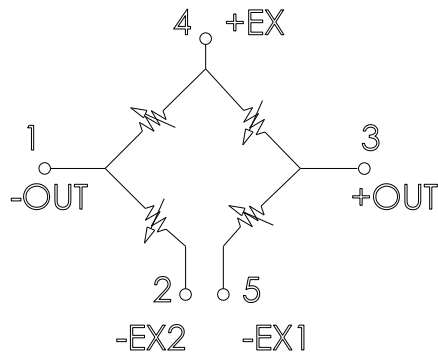


Sensor Pinout

Pin No.	Function
1	-OUT
2	-EX2
3	+OUT
4	+EX
5	-EX1



CONNECTIONS



## ORDERING INFORMATION

<b>86</b>	—	<b>030</b>	<b>G</b>	—	<b>U</b>	<b>T</b>
<b>Model Name</b>						
<b>Pressure range [psi]</b>						
005	050	500				
015	100					
030	300					
<b>Pressure Type</b>						
A = Absolute			G = Gage			
<b>Electrical Connections</b>						
U = Open bridge, Uncomp						
<b>Vent Type*</b>						
T = Tube						

\*If No Tube, Leave Blank

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