



## 82

### Uncompensated

#### SPECIFICATIONS

- **316L SS Pressure Sensor**
- **19mm Diameter Package**
- **0 - 100mV Output**
- **Absolute and Gage**

#### Features

- O-Ring Mount/Threaded Process Fittings
- -40°C to +125°C Operating Temperature Range
- Up to  $\pm 0.1\%$  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)

The 82 uncompensated is a 19 mm small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. The 82 uncompensated can be configured for O-ring mounting or threaded process fittings and is designed for OEM applications where compatibility with corrosive media is required.

The sensing package utilizes silicone oil to transfer pressure from the 316L stainless steel diaphragm to the sensing element.

Please refer to the 82 compensated and constant voltage datasheets for more information on different features of the 82.

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## Specifications

Unless otherwise specified, Supply Current: 1.5mA; Ambient Temperature: 25°C

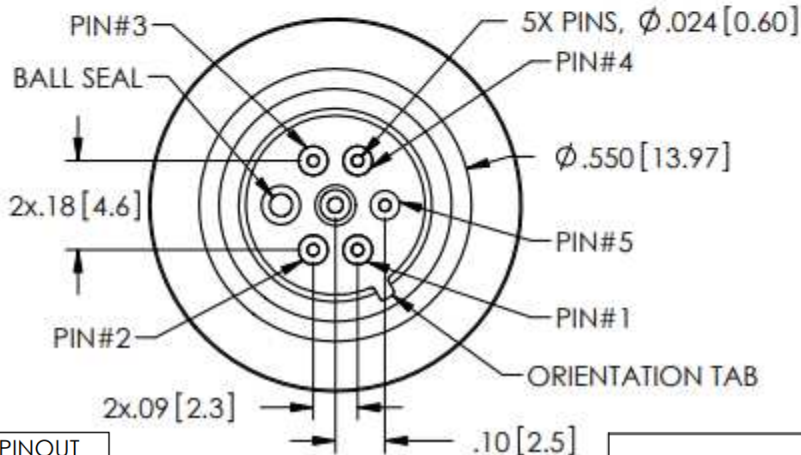
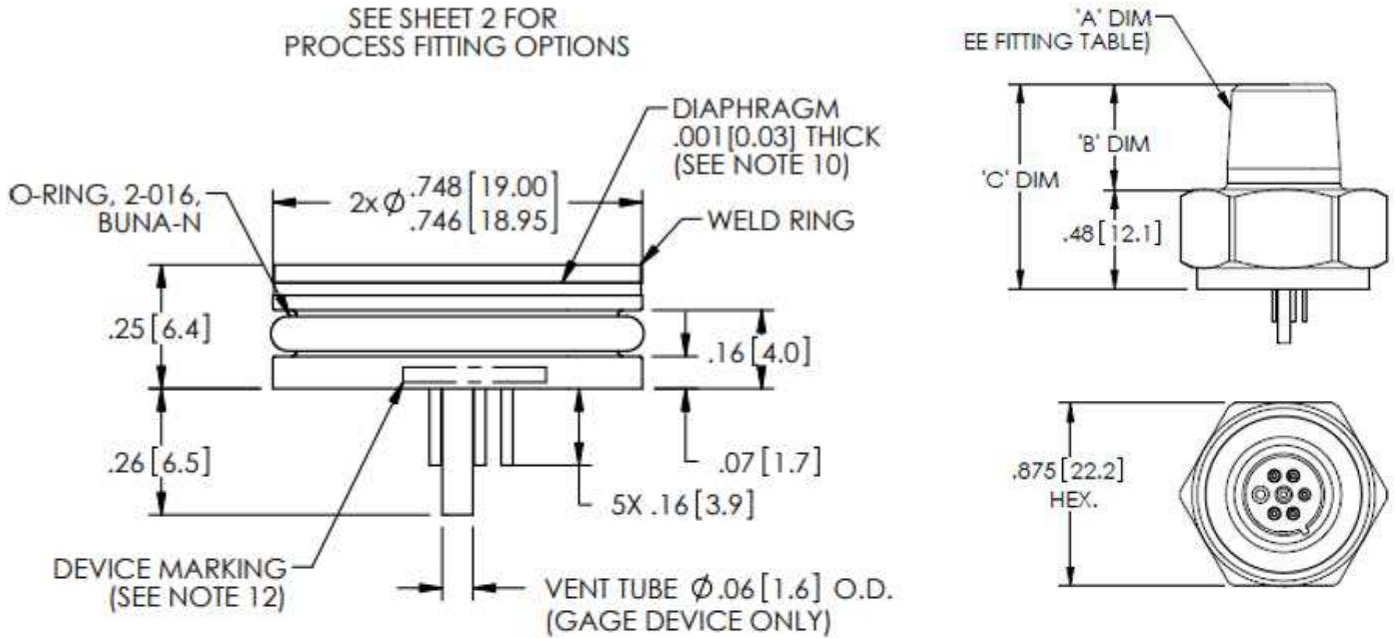
PARAMETERS	001PSI			005PSIA			005PSIG & ≥015PSI			UNITS	NOTES
	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX		
Sensitivity	9	-	20	12	15	18	12	-	27	mV/V@FS	
Zero Pressure Output	-4.0	-	8.0	-10	-	10	-6.0	-	8.0	mV/V	1
Pressure Non Linearity	-0.3	-	0.3	-0.2	-	0.2	-0.1	-	0.1	%Span	2, 3
Repeatability	-	±0.02	-	-	±0.02	-	-	±0.02	-	%Span	
Pressure Hysteresis	-0.10	-	0.10	-0.10	-	0.10	-0.05	-	0.05	%Span	3
Bridge Resistance	4.4K	5.8K	6.2K	4.0K	5.0K	6.0K	3.8K	-	5.8K	Ω	4
Thermal Hysteresis – Span	-0.25	±0.05	0.25	-0.25	±0.05	0.25	-0.25	±0.05	0.25	%Span	5
Thermal Hysteresis – Offset	-0.25	±0.05	0.25	-0.25	±0.05	0.25	-0.25	±0.05	0.25	%Span	5
Temp. Coefficient – Resistance	2.60	3.20	3.50	-	2.40	-	1.30	1.51	1.75	kppm/°C	5
Temp. Coefficient – Span	-3.30	-2.80	-2.30	-	-2.00	-	-1.65	-1.25	-	kppm/°C	5
								1.00			
Temp. Coefficient – Offset	-	±100	-	-80	-	80	-30	-	30	μV/V/°C	3, 5
Long Term Stability – Span	-	±0.1	-	-	±0.1	-	-	±0.1	-	%Span	
Long Term Stability – Offset	-	±0.25	-	-	±0.25	-	-	±0.1	-	%Span	3
Supply Current	0.5	1.5	2.0	0.5	1.5	2.0	0.5	1.5	2.0	mA	
Supply Voltage	-	5	9.5	-	5	9.5	-	5	9.5	V	
Output Noise (10Hz to 1KHz)	-	1.0	-	-	1.0	-	-	1	-	μV p-p	
Response Time (10% to 90%)	-	0.1	-	--	0.1	-	-	0.1	-	ms	
Insulation Resistance (50Vdc)	50M	-	-	50M	-	-	50M	-	-	Ω	6
Pressure Overload	-	-	10x	-	-	3x	-	-	3x	Rated	7
Pressure Burst	-	-	12x	-	-	4x	-	-	4x	Rated	8
Operating Temperature	-40	-	85	-40	-	125	-40	-	125	°C	
Storage Temperature	-50	-	125	-50	-	125	-50	-	125	°C	
Media – Pressure Port	Liquids and Gases compatible with 316L Stainless Steel										

### Notes

- Measured at vacuum for absolute (A) and at ambient for gage (G).
- Best fit straight line.
- Values for 5psiG devices are as follows:  
 Pressure Hysteresis: -0.10 min, +0.10 max  
 Temp. Coefficient (offset): -80 min, +80 max  
 Long Term Stability (Offset): ±0.25 TYP  
 Non-linearity is ±0.2 max.
- 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 1psi, 0°C to 70°C for 5psi).
- Between case and sensing element.
- The maximum pressure that can be applied without changing the transducer's performance or accuracy.
- The maximum pressure that can be applied without rupture of either the sensing element or transducer
- Standard gage units are not recommended for vacuum applications.
- 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 the devices are not in use.
- Testing:
  - Units are not tested over temperature or pressure.
  - A final test is performed @ 1.5mA and room temperature for part functionality.
  - All units are subjected to 100% drift test.
- Marking:  
Part marked with Model Number, Pressure Range, Type, Lot Number, Serial Number and Date Code.
- Shipping:  
The stainless steel diaphragm is protected by a static dissipative cap (No fitting options). Each unit will be packaged individually in a plastic vial with ant-static foam.
- Product description  
Model 82-XXXXA/G-XU(T) is a uncompensated micro machined piezoresistive silicon pressure sensor.

Dimensions

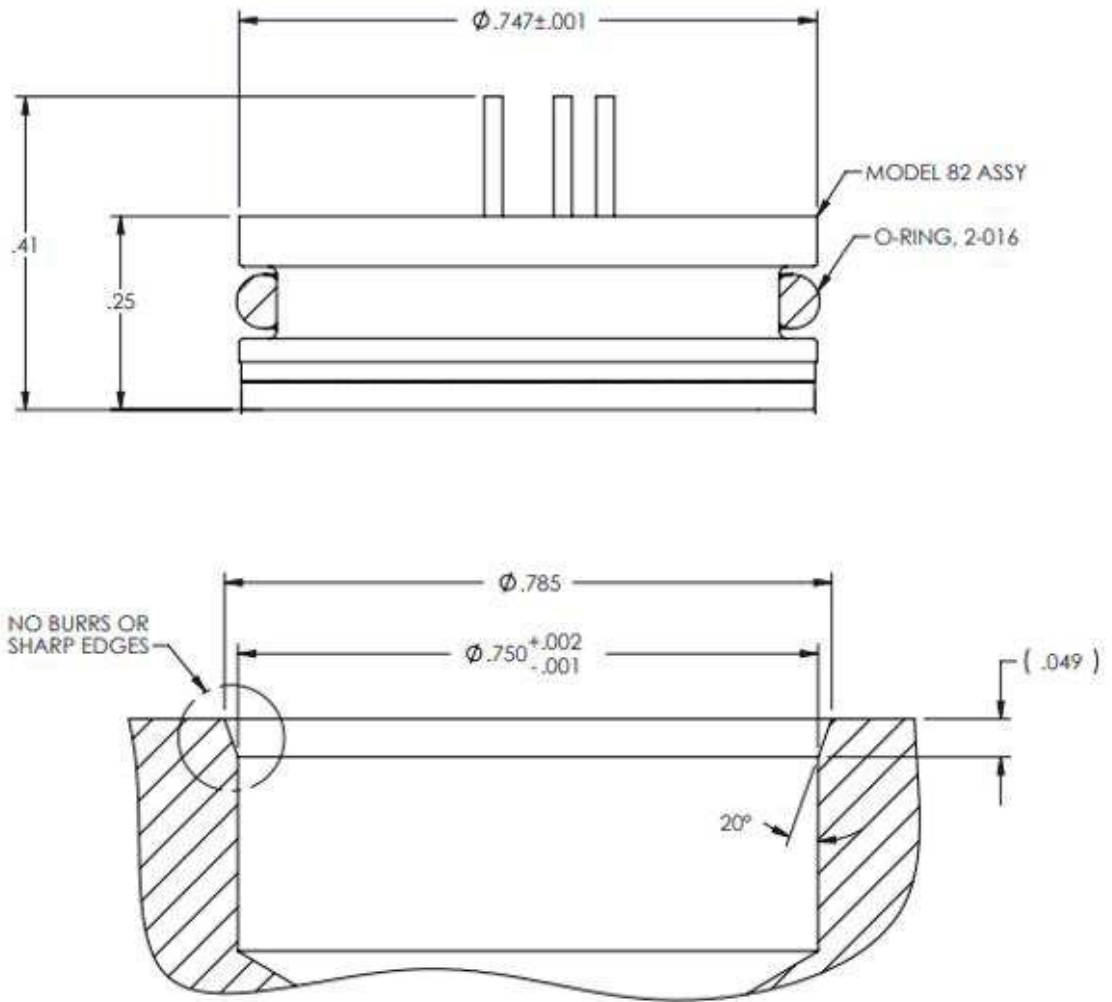
Dimensions are in inches [mm]



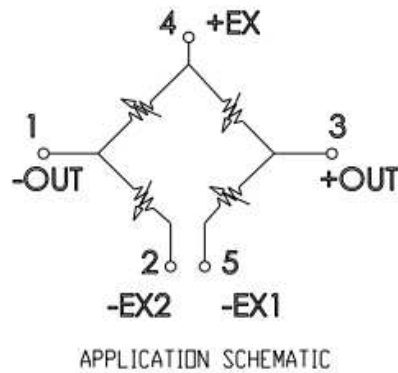
SENSOR PINOUT	
PIN NO.	FUNCTION
1	-OUT
2	-EX2
3	+OUT
4	+EX
5	-EX1

FITTING TABLE			
FITTING TYPE	'A' DIM	'B' DIM	'C' DIM
1	1/4-18 NPT	.50[12.7]	.98[24.9]
2	1/8-27 NPT	.47[11.9]	.95[24.1]
3	7/16-20 UNF	.33[8.4]	.80[20.3]
9	1/4-19 BSP	.45[11.4]	.93[23.3]
NOTE: FITTING TYPE '1' ASSEMBLY SHOWN ALL DIMS ARE FOR REFERENCE.			

RECOMMENDED MOUNTING DIMENSIONS



Connections



ORDERING INFORMATION

**Part Number**  
82 – 030 G – 3 U T

Pressure Range [psi]	
001	(Gage Only)
005	
015	
030	
050	
100	
300	
500	

Pressure Type	
G	Gage
A	Absolute

Vent	
T	Tube
[Blank]	No Tube

Electrical	
U	Open Bridge, Uncomn

Fitting Type	
[Blank]	No Fitting, Weldable
1	1/4-18 NPT
2	1/8-27 NPT
3	7/16-20 UNF
9	1/4-19 BSP

Refer to Fitting Table for more information

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