



TEI-19U

Uncompensated

FEATURES

- O-Ring Mount
- -40°C to +125°C Operating Temperature
- Up to ±0.1% TYP. Pressure Non-Linearity
- Solid State Reliability

APPLICATIONS

- Medical Instruments
- Process Control
- Fresh & Waste Water Measurements
- Refrigeration/Compressors
- Pressure Transmitters
- Hydraulic Controls

STANDARD RANGES

Range	Psi G	Psi A
0 to 5	•	
0 to 15	•	•
0 to 30	•	•
0 to 50	•	•
0 to 100	•	•
0 to 300	•	•
0 to 500	•	•

SPECIFICATIONS

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

The TEI-19U uncompensated pressure sensor is a 19 mm small profile, media compatible, piezoresistive silicon pressure sensor packaged in a 316L stainless steel housing. It is designed for O-ring mounting and 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.

For a similar sensor with same outline dimensions and similar parameters, refer to the 154N uncompensated pressure sensor.

PERFORMANCE SPECIFICATIONS

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

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Sensitivity	9	-	27	mV/V@Span	
Zero Pressure Output	-8.0	0	+8.0	mV/V	1
Pressure Non-Linearity	-0.2	±0.1	+0.2	%Span	2
Pressure Hysteresis		5psi: -0.10 to 0.10 ≥ 15psi: -0.05 to 0.05		%Span	2
Repeatability	-	±0.02	-	%Span	
Bridge Resistance	3.8	-	5.8	KΩ	
Thermal Hysteresis – Span	-0.25	±0.05	+0.25	%Span	3
Thermal Hysteresis – Offset	-0.25	±0.05	+0.25	%Span	3
Temp Coefficient - Resistance	1.30K	1.51K	1.75K	PPM/°C	3
Temp Coefficient - Span	-1.65K	-1.25K	-1.0K	PPM/°C	3
Temp Coefficient - Offset	-	1	-	μV/V/°C	3
Long Term Stability – Span	-	±0.25	-	%Span/Year	
Long Term Stability – Offset	-	±0.25	-	%Span/Year	
Supply Current	0.5	1.5	2.0	mA	
Supply Voltage	-	5	9.5	V	
Insulation Resistance (50VDC)	50	-	-	MΩ	4
Output Noise (10Hz to 1KHz)	-	1.0	-	μV p-p	
Response Time (10% to 90%)	-	0.1	-	ms	
Pressure Overload	-	-	3X	Rated	5
Pressure Burst	-	-	4X	Rated	6
Operating Temperature	5 PSI	-20	-	+70	°C
	≥ 15 PSI	-40	-	+125	°C
Storage Temperature	-40	-	+125	°C	
Media – Reference Port	LIQUIDS AND GASES COMPATIBLE WITH 316/316L ST STL				

Notes:

1. Measured at vacuum for absolute (A), ambient pressure for gage (G).
2. Best fit straight line.
3. TC values are first order coefficients to a quadratic fit over a temperature range of -10°C to 70°C (0°C to 50°C for 5 psi).
4. Between case and sensing element.
5. The maximum pressure that can be applied without changing the transducer's performance or accuracy.
6. The maximum pressure that can be applied to a transducer without rupture of either the sensing element or transducer
7. Testing:
 - 7.1 Units are not tested over temperature or pressure.
 - 7.2 A final test is performed @ 1.5mA and room temperature for part functionality.
 - 7.3 All units are subjected to 100% drift test.
8. Marking:

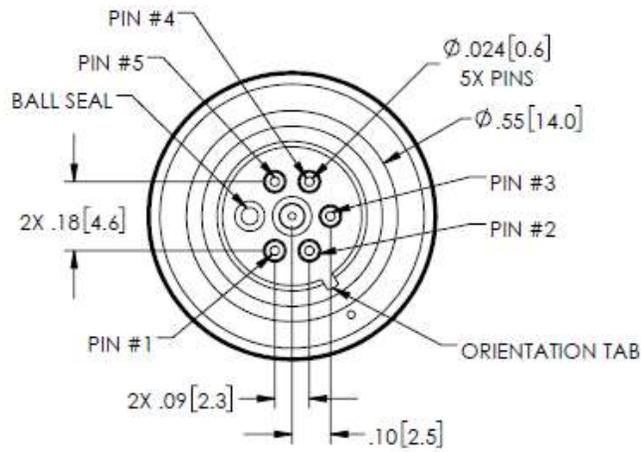
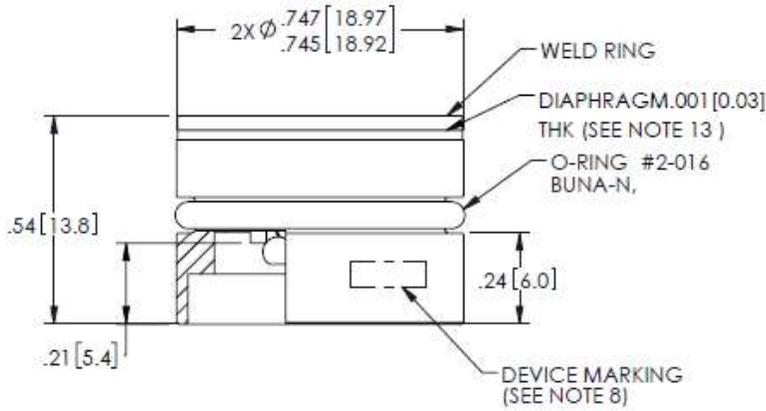
Each part shall be identified with full part number, lot number, serial number and date code.
9. Shipping:

Each unit will be packaged individually in a plastic vial with anti-static foam.
10. Product description:

Model TEI-19-xxxx-U is an uncompensated micro machined piezoresistive silicon pressure sensor.
11. 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.

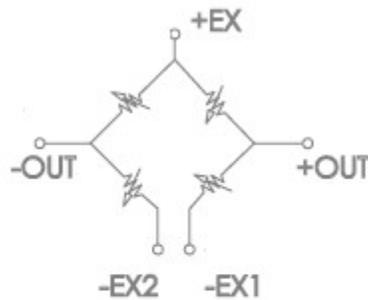
DIMENSIONS

(DIMENSIONS ARE IN INCHES [mm])



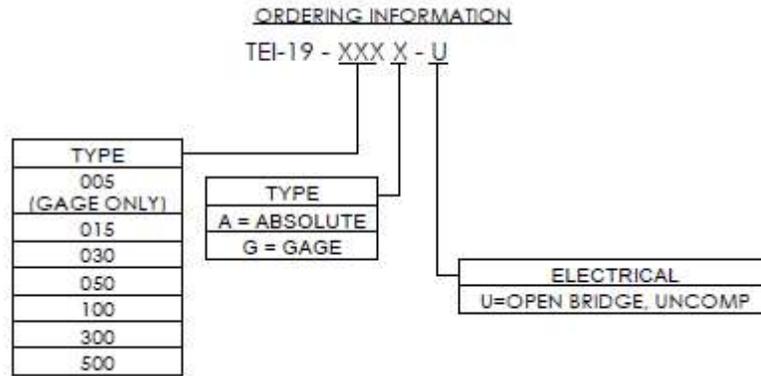
SENSOR PINOUT	
PIN NO.	FUNCTION
1	-OUT
2	-EX1
3	-EX2
4	+OUT
5	+EX

EQUIVALENT SCHEMATIC



APPLICATION SCHEMATIC

ORDERING INFORMATION



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