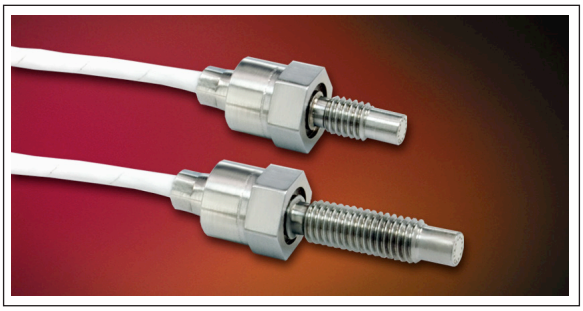
# MINIATURE RUGGEDIZED HIGH TEMPERATURE PRESSURE TRANSDUCER

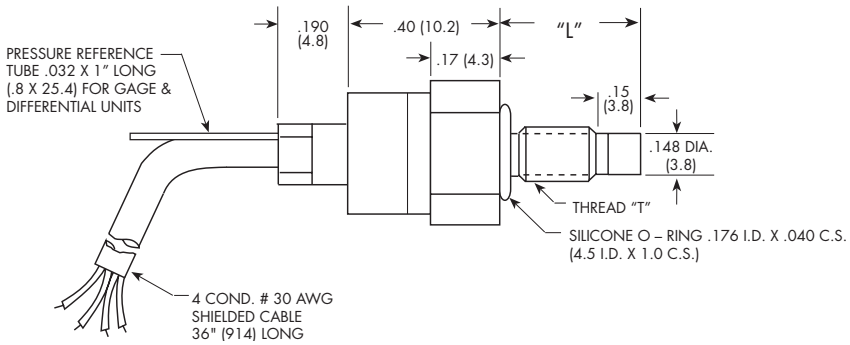
## XTEL-190 (M) SERIES

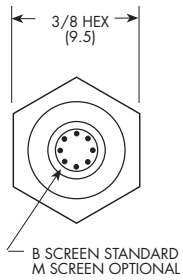
- Wide Temperature Capability -65°F To 525°F
- Easy Installation
- Patented Leadless Technology **VIS**®
- High Natural Frequency

The ruggedness of this sensor has not compromised its performance. It was designed for ease of installation and will operate properly in most conductive liquids and gases. Coupled with high temperature, its Patented Leadless Construction makes it possible for the sensing unit to be installed in such a way that will not compromise its high natural frequency. Its wide operating range (-65°F to +525°F) makes it ideal for numerous applications in Aerospace and other areas of industry. Part performance not guaranteed if used in water.



**Kulite recommends the KSC Series of signal conditioners to maximize the measurement capability of the XTEL-190 transducer.**




| FUNCTION | |
|---|---|
| WIRING COLOR | |
| RED | + INPUT |
| WHITE | - OUTPUT |
| BLACK | - INPUT |
| GREEN | + OUTPUT |

| P/N | "T" | "L" | |
|---|---|---|---|
| 190S | 10-32 UNF-2A | .437 | 11.1 mm |
| 190S(M) | M5 x .8 | .437 | 11.1 mm |
| 190L | 10-32 UNF-2A | .760 | 19.3 mm |
| 190L(M) | M5 x .8 | .760 | 19.3 mm |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| INPUT | Pressure Range | 0.7<br>10 | 1.0<br>15 | 1.7<br>25 | 3.5<br>50 | 7<br>100 | 17<br>250 | 35<br>500 | 70<br>1000 | 140 BAR<br>2000 PSI |
| | Operational Mode | Absolute, Gage, Differential | | Absolute, Gage, Sealed Gage, Differential | | | Absolute, Sealed Gage | | | |
| | Over Pressure | 2 Times Rated Pressure to 500 PSI (35 BAR), 1.5 Times Rated Pressure Above 500 PSI (35 BAR) | | | | | | | | |
| | Burst Pressure | 3 Times Rated Pressure to a Maximum of 5000 PSI (350 BAR) | | | | | | | | |
| | Pressure Media | Most Conductive Liquids and Gases - Please Consult Factory (All Media May Not Be Suitable With O-Ring Supplied) | | | | | | | | |
| | Rated Electrical Excitation | 10 VDC | | | | | | | | |
| | Maximum Electrical Excitation | 12 VDC | | | | | | | | |
| | Input Impedance | 1000 Ohms (Min.) | | | | | | | | |
| OUTPUT | Output Impedance | 1000 Ohms (Nom.) | | | | | | | | |
| | Full Scale Output (FSO) | 100 mV (Nom.) | | | | | | | | |
| | Residual Unbalance | ± 5 mV (Typ.) | | | | | | | | |
| | Combined Non-Linearity, Hysteresis and Repeatability | ± 0.1% FSO BFSL (Typ.), ± 0.5% FSO (Max.) | | | | | | | | |
| | Resolution | Infinitesimal | | | | | | | | |
| | Natural Frequency of Sensor Without Screen (KHz) (Typ.) | 175 | 200 | 240 | 300 | 380 | 550 | 700 | 1000 | 1400 |
| | Acceleration Sensitivity % FS/g Perpendicular | $1.0x10^{-3}$ | $6.5x10^{-4}$ | $5.0x10^{-4}$ | $3.0x10^{-4}$ | $1.5x10^{-4}$ | $1.0x10^{-4}$ | $6.0x10^{-5}$ | $4.5x10^{-5}$ | $2.0x10^{-5}$ |
| | Insulation Resistance | 100 Megohm Min. @ 50 VDC | | | | | | | | |
| ENVIRONMENTAL | Operating Temperature Range | -65°F to +525°F (-55°C to +273°C) (Media) -65°F to +450°F (-55°C to +232°C) (Ambient) | | | | | | | | |
| | Compensated Temperature Range | +80°F to +450°F (+25°C to +232°C) | | | | | | | | |
| | Thermal Zero Shift | ± 1% FS/100°F (Typ.) | | | | | | | | |
| | Thermal Sensitivity Shift | ± 1% /100°F (Typ.) | | | | | | | | |
| | Mechanical Shock | 20g Half Sine Wave 11 msec. Duration | | | | | | | | |
| | Linear Vibration | 20g Peak, Sine 10 to 2000 Hz | | | | | | | | |
| PHYSICAL | Electrical Connection | 4 Conductor 30 AWG Shielded Cable 36" Long | | | | | | | | |
| | Weight | 4 Grams (Nom.) Excluding Cable | | | | | | | | |
| | Pressure Sensing Principle | Fully Active Four Arm Wheatstone Bridge Dielectrically Isolated Silicon on Silicon Patented Leadless Technology | | | | | | | | |
| | Mounting Torque | 15 Inch-Pounds (Max.) 1.7 Nm | | | | | | | | |

*Note: Custom pressure ranges, accuracies and mechanical configurations available. Dimensions are in inches. Dimensions in parenthesis are in millimeters. All dimensions nominal. (Q) Continuous development and refinement of our products may result in specification changes without notice.* 
*Kulite miniature pressure transducers are intended for use in test and research and development programs and are not necessarily designed to be used in production applications. For products designed to be used in production programs, please consult the factory.*

*KULITE SEMICONDUCTOR PRODUCTS, INC. • One Willow Tree Road • Leonia, New Jersey 07605 • Tel: 201 461-0900 • Fax: 201 461-0990 • http://www.kulite.com*