



# CRYOGENIC MINIATURE RUGGEDIZED PRESSURE TRANSDUCER

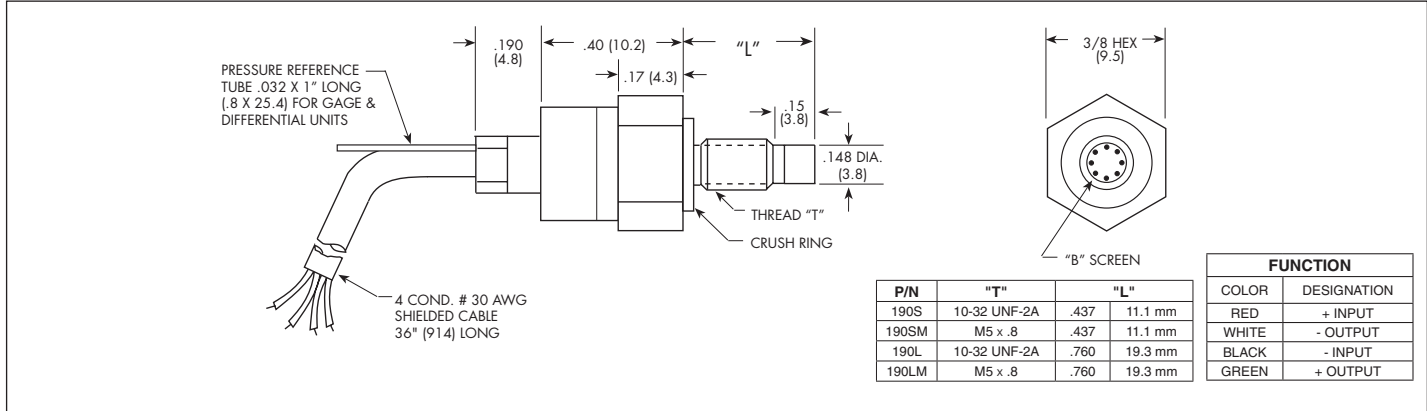
## CTL-190 (M) SERIES

- Cryogenic Operation -320°F to +250°F (-195.5°C to +120°C)
- Low Ranges Available
- Patented Leadless Technology VIS®
- Excellent Stability and Repeatability
- High Frequency Response

Similar in design to the XTL-190 Series, these sensors are specifically intended for use at cryogenic temperature. The extremely good low temperature stability of Kulite Sensors make them ideally suited for this application.



Kulite recommends the [KSC-2](#) signal conditioner to maximize the measurement capability of the CTL-190 transducer.



Pressure Range	0.35 5	0.7 10	1.7 25	3.5 50	7 100	17 250	35 500	70 1000	140 BAR 2000 PSI
Operational Mode	Absolute, Gage, Differential		Absolute, Gage, Sealed Gage, Differential			Absolute, Sealed Gage			
Over Pressure	2 Times Rated Pressure to a Maximum of 3000 PSI (210 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)								
Rated Electrical Excitation	10 VDC								
Maximum Electrical Excitation	12 VDC								
Input Impedance	1000 Ohms (Min.)								
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.)	150	175	240	300	380	550	700	1000	1400
Acceleration Sensitivity % FS/g Perpendicular	1.5x10 <sup>-3</sup>	1.0x10 <sup>-3</sup>	5.0x10 <sup>-4</sup>	3.0x10 <sup>-4</sup>	1.5x10 <sup>-4</sup>	1.0x10 <sup>-4</sup>	6.0x10 <sup>-5</sup>	4.5x10 <sup>-5</sup>	2.0x10 <sup>-5</sup>
Insulation Resistance	100 Megohm Min. @ 50 VDC								
Operating Temperature Range	-320°F to +250°F (-195.5°C to +120°C)								
Compensated Temperature Range	-300°F to +100°F (-184.4°C to +37.5°C)								
Thermal Zero Shift	± 1% FS/100°F (Typ.)								
Thermal Sensitivity Shift	± 1% /100°F (Typ.)								
Linear Vibration	10-2,000 Hz Sine, 100g. (Max.)								
Mechanical Shock	20g half Sine Wave 11 msec. Duration								
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. (I) Continuous development and refinement of our products may result in specification changes without notice. Copyright © 2014 Kulite Semiconductor Products, Inc. All Rights Reserved. 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.