

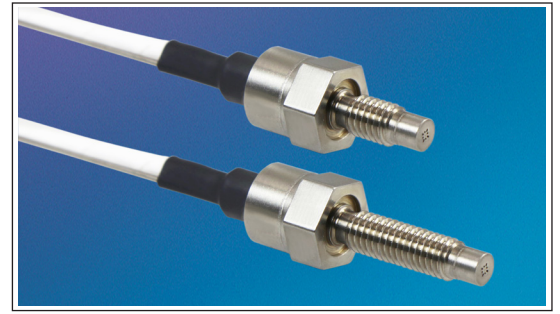


# MINIATURE RUGGEDIZED PRESSURE TRANSDUCER

## DTL-190 (M) SERIES

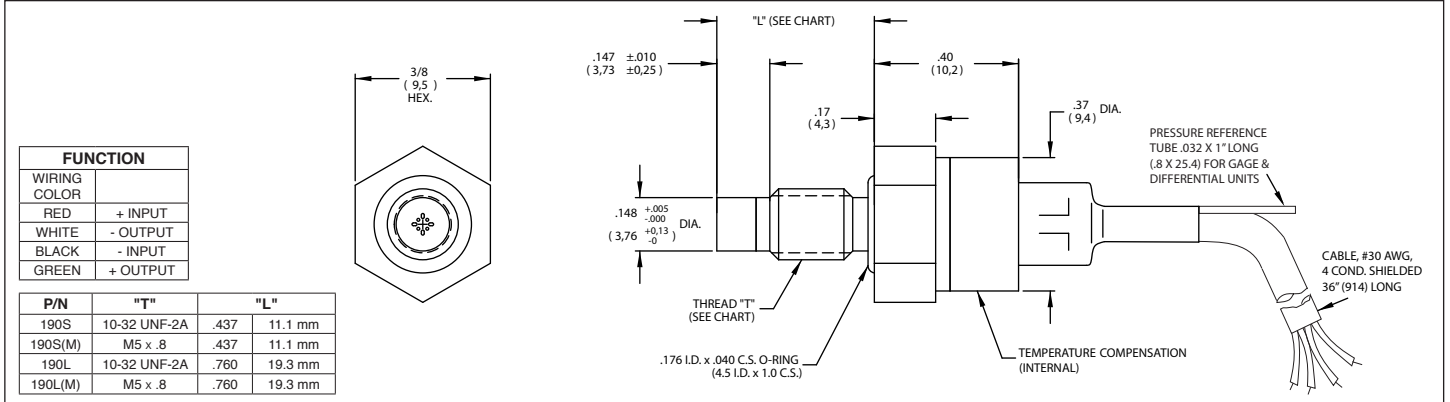
- Easy Installation
- Patented Leadless Technology VIS<sup>®</sup>
- Optimized Frequency Response

The DTL-190 transducer series features an optimized package design that maximizes the frequency response performance by minimizing the effects of acoustic resonance. This design holds the chip and protective screen to the tightest tolerances thereby achieving a flat frequency response of DC to 50+ kHz regardless of pressure range or packaging when properly installed. Kulite provides installation recommendations for all of its threaded probes, please refer to Figures 1(b) and 2(b) in this document; [English](#), [Metric](#).



The DTL-190 features Kulite's rugged leadless construction, capable of making static and high frequency dynamic pressure measurements in any media compatible with 316 SS, silicon, and silicon dioxide. The DTL-190 can be easily integrated into your test stand via the 10-32 or M5 threaded connection that is common to miniature transducers. With the inputs and outputs coupled to a Kulite KSC-2 signal conditioner, extremely low-noise and accurate static and dynamic pressure measurements are achieved. Optional 5th-wire temperature measurements for greater accuracy are also possible - please contact the factory for details.

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



INPUT	Pressure Range	0.7 10	1.0 15	1.7 25	3.5 50	7 100	17 250	35 500	70 BAR 1000 PSI	
	Operational Mode	Absolute, Gage, Differential		Absolute, Gage, Sealed Gage, Differential			Absolute, Sealed Gage			
	Over Pressure	2 Times Rated Pressure								
	Burst Pressure	3 Times Rated Pressure to a Maximum of 2300 PSI (160 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/AC								
	Maximum Electrical Excitation	12 VDC/AC								
	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.)	175	200	240	300	380	550	700	1000		
OUTPUT	Frequency Response (Typ.) In Air at Room Temperature									
	Acceleration Sensitivity % FS/g Perpendicular	1.0x10 <sup>-3</sup>	6.5x10 <sup>-4</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>	
	Insulation Resistance	100 Megohm Min. @ 50 VDC								

ENVIRONMENTAL	Operating Temperature Range	-65°F to +350°F (-55°C to +175°C)
	Compensated Temperature Range	+80°F to +180°F (+25°C to +80°C) Any 100°F Range Within The Operating Range on Request
	Thermal Zero Shift	± 1% FS/100°F (Typ.)
	Thermal Sensitivity Shift	± 1% /100°F (Typ.)
	Steady Acceleration	10,000g. (Max.)
	Linear Vibration	10-2,000 Hz Sine, 100g. (Max.)
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. (A) Continuous development and refinement of our products may result in specification changes without notice. Copyright © 2020 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.*