



# MINIATURE HIGH TEMPERATURE PRESSURE TRANSDUCER

## HEM-375 (M) SERIES

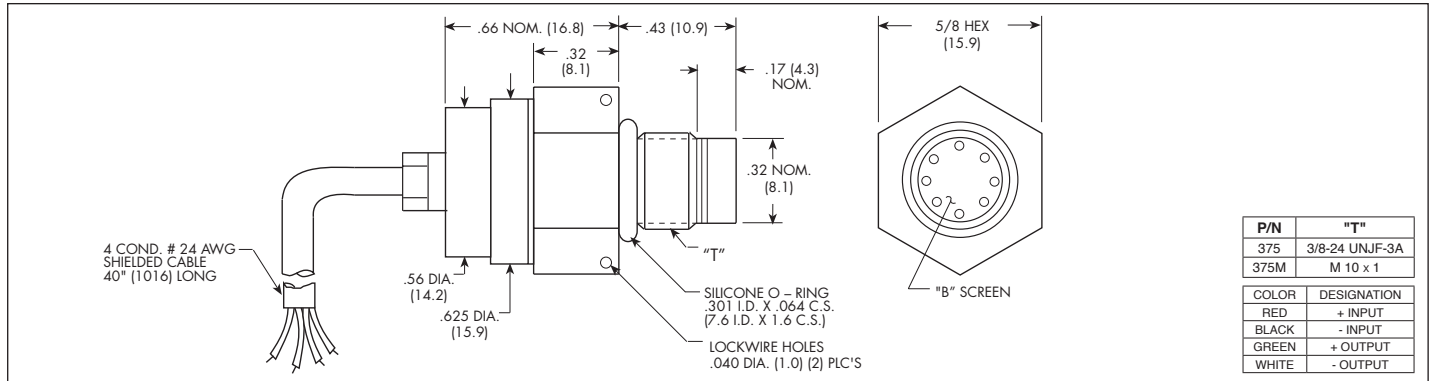
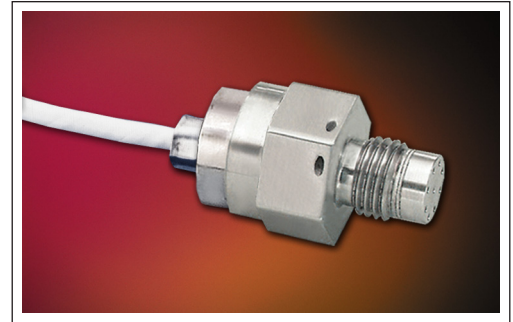
- Wide Temperature Capability -65°F To 380°F
- Excellent Stability
- All Welded Construction
- Robust Construction
- Silicon on Silicon Integrated Sensor **VIS**<sup>®</sup>
- High Natural Frequencies
- 3/8-24 UNJF or M10 X 1 Thread

The HEM-375 is a miniature threaded pressure transducer. The hexagonal head and o-ring seal make it easy to mount and simple to apply.

The HEM-375 utilizes a flush metal diaphragm as a force collector. A solid state piezoresistive sensing element is located immediately behind this metal diaphragm which is protected by a metal screen. Force transfer is accomplished via non-compressible silicone oil. This sensing sub assembly is welded to a stainless steel body. Use of high temperature materials allows for use at temperatures up to 380°F (193°C).

This advanced construction results in a highly stable, reliable and rugged instrument with all the advantages of significant miniaturization, excellent repeatability, low power consumption, etc. The miniaturization process also yields a marked increase in the natural frequencies of the transducers, making them suitable for use in shock pressure measurements and blast pressure wave studies.

Kulite recommends the **KSC Series** of signal conditioners to maximize the measurement capability of the HEM-375 transducer.



	17	35	70	170	350	700 BAR	
	250	500	1000	2500	5000	10000 PSI	
<b>INPUT</b>	Pressure Range						
	Operational Mode	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 Max. of 25000 PSI (1700 BAR)					
	Pressure Media	Any Liquid or Gas Compatible with 15-5 PH and 316 Stainless Steel or Inconel 625 (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.)					
<b>OUTPUT</b>	Output Impedance	1000 Ohms (Nom.)					
	Full Scale Output (FSO)	100mV (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.)	Greater Than 400 KHz					
	Acceleration Sensitivity % FS/g Perpendicular	2.2x10 <sup>-4</sup>	1.1x10 <sup>-4</sup>	6.2x10 <sup>-5</sup>	2.6x10 <sup>-5</sup>	1.5x10 <sup>-5</sup>	1.3x10 <sup>-5</sup>
	Insulation Resistance	100 Megohm Min. @ 50 VDC					
<b>ENVIRONMENTAL</b>	Operating Temperature Range	-65°F to +380°F (-55°C to +193°C)					
	Compensated Temperature Range	+80°F to +380°F (+25°C to +193°C)					
	Thermal Zero Shift	± 1% FS/100° F (Typ.)					
	Thermal Sensitivity Shift	± 1% /100° F (Typ.)					
	Linear Vibration	20g Peak, Sine 10 to 2000 Hz					
Mechanical Shock	20g Half Sine Wave 11 msec. Duration						
<b>PHYSICAL</b>	Electrical Connection	4 Conductor 24 AWG Shielded Cable 40" Long					
	Weight	17 Grams (Max.) Excluding Cable					
	Pressure Sensing Principle	Fully Active Four Arm Wheatstone Bridge Dielectrically Isolated Silicon on Silicon					
	Mounting Torque	80 Inch-Pounds (Max.) 9 Nm					

Note: Custom pressure ranges, accuracies and mechanical configurations available. Dimensions are in inches. Dimensions in parenthesis are in millimeters. All dimensions nominal. (W) 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.