



# MINIATURE HIGH TEMPERATURE PRESSURE TRANSDUCER

## HEM-375 (M) SERIES

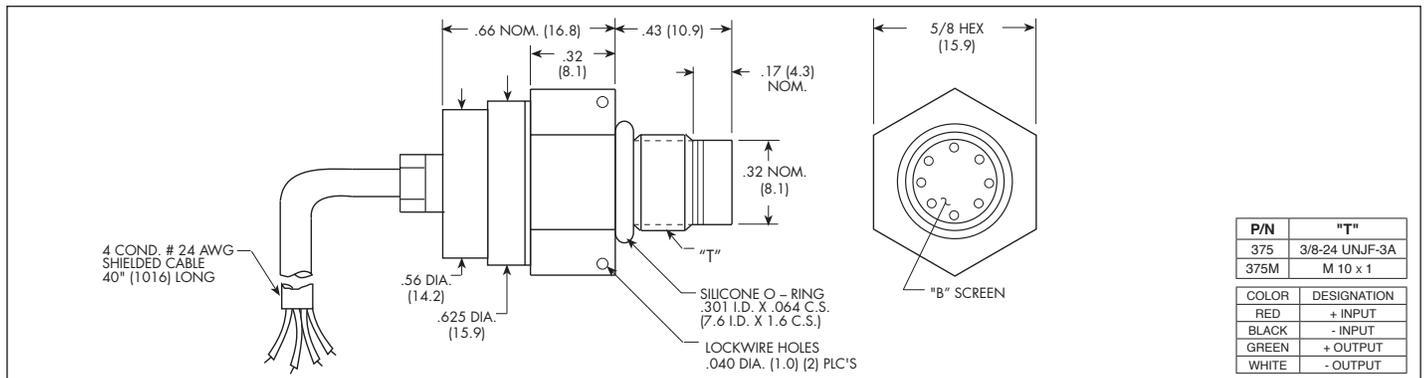
- Wide Temperature Capability -65°F To 380°F
- Excellent Stability
- All Welded Construction
- Robust Construction
- Silicon on Silicon Integrated Sensor **VIS**<sup>®</sup>
- High Natural Frequencies
- 3/8-24 UNJF or M10 X 1 Thread

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 (177°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>	Absolute, Sealed Gage					
Pressure Range	2 Times Rated Pressure to 500 PSI (35 BAR), 1.5 Times Rated Pressure Above 500 PSI (35 BAR)					
Operational Mode	3 Times Rated Pressure to a Max. of 25000 PSI (1700 BAR)					
Over Pressure	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)					
Burst Pressure	10 VDC					
Pressure Media	12 VDC					
Rated Electrical Excitation	1000 Ohms (Min.)					
Maximum Electrical Excitation	1000 Ohms (Nom.)					
Input Impedance	100mV (Nom.)					
Output Impedance	± 5 mV (Typ.)					
Full Scale Output (FSO)	± 0.1% FSO BFSL (Typ.), ± 0.5% FSO (Max.)					
Residual Unbalance	Infinitesimal					
Combined Non-Linearity, Hysteresis and Repeatability	Greater Than 400 KHz					
Resolution	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>
Natural Frequency of Sensor Without Screen (KHz) (Typ.)	100 Megohm Min. @ 50 VDC					
Acceleration Sensitivity % FS/g Perpendicular	-65°F to +380°F (-55°C to +193°C) (Short term use above 350°F / 177°C. Please consult factory.)					
Insulation Resistance	+80°F to +380°F (+25°C to +193°C) (Short term use above 350°F / 177°C. Please consult factory.)					
Operating Temperature Range	± 1% FS/100° F (Typ.)					
Compensated Temperature Range	± 1% /100° F (Typ.)					
Thermal Zero Shift	20g Peak, Sine 10 to 2000 Hz					
Thermal Sensitivity Shift	20g Half Sine Wave 11 msec. Duration					
Linear Vibration	4 Conductor 24 AWG Shielded Cable 40" Long					
Mechanical Shock	17 Grams (Max.) Excluding Cable					
Electrical Connection	Fully Active Four Arm Wheatstone Bridge Dielectrically Isolated Silicon on Silicon					
Weight	80 Inch-Pounds (Max.) 9 Nm					
Pressure Sensing Principle						
Mounting Torque						

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