



MINIATURE HIGH TEMPERATURE PRESSURE TRANSDUCER

HEM-375 (M) CO SERIES

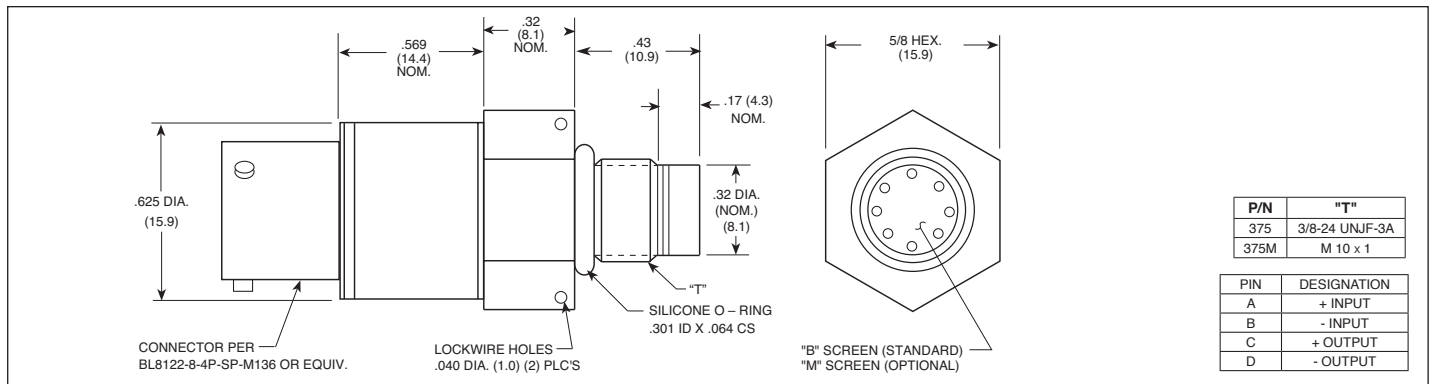
- Wide Temperature Capability -65°F To 450°F
- Excellent Stability
- All Welded Construction
- Robust Construction
- Silicon on Silicon Integrated Sensor **VIS**[®]
- High Natural Frequencies
- 3/8-24 UNJF or M10 X 1 Thread

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 450°F (232°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.



| | | | | | | | |
|-----------------------|---|---|----------------------|----------------------|----------------------|----------------------|----------------------|
| INPUT | Pressure Range | 17 250 | 35 500 | 70 1000 | 170 2500 | 350 5000 | 700 BAR 10000 PSI |
| | 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 or 316 Stainless Steel (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) | 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 ⁻⁴ | 1.1x10 ⁻⁴ | 6.2x10 ⁻⁵ | 2.6x10 ⁻⁵ | 1.5x10 ⁻⁵ | 1.3x10 ⁻⁵ |
| Insulation Resistance | 100 Megohm Min. @ 50 VDC | | | | | | |
| ENVIRONMENTAL | Operating Temperature Range | -65°F to +450°F (-55°C to +232°C) (Short term use above 350°F / 177°C. Please consult factory.) | | | | | |
| | Compensated Temperature Range | +80°F to +400°F (+25°C to +204°C) (Short term use above 350°F / 177°C. Please consult factory.) | | | | | |
| | 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 | | | | | | |
| PHYSICAL | Electrical Connection | BL8112-8-4P-SP-M136 Connector or Equiv. | | | | | |
| | 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. 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.