



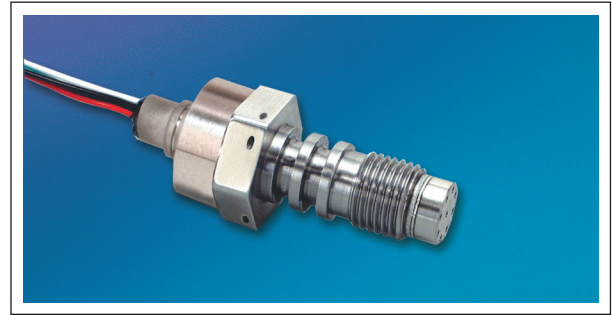


# DOWN HOLE MINIATURE PRESSURE TRANSDUCER

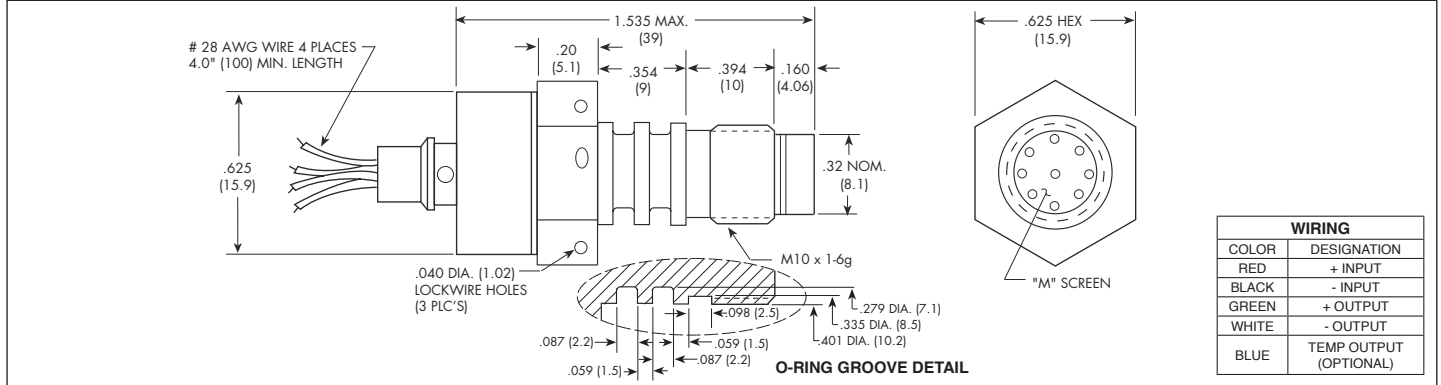
## HKM-198-375M SERIES (METRIC)

- Excellent Stability
  - Robust All Welded Construction
  - M10 X 1 Thread
  - Silicon on Silicon Integrated Sensor **VIS<sup>®</sup>**
  - High Natural Frequencies
  - High Pressure Capabilities
  - Intrinsically Safe Applications
- Available (i.e. IS-HKM-198-375M)  

This miniature high pressure pressure transducer utilizes Kulite's state of the art, Silicon on Silicon Isolated Diaphragm Sensing Technology, to provide excellent long term stability and high accuracy at temperatures to 200°C (392°F). An optional fifth wire will provide a temperature signal directly from the pressure sensing Wheatstone Bridge for the purpose of software correction of that bridge's thermal error.



Kulite recommends the **KSC Series** of signal conditioners to maximize the measurement capability of the HKM-198-375 transducer.



|                               |   |  |                                   |             |             |              |               |               |               |                       |  |
|-------------------------------|---|--|-----------------------------------|-------------|-------------|--------------|---------------|---------------|---------------|-----------------------|--|
| INPUT                         | Pressure Range (FSP)                                    | 35<br>500  | 70<br>1000                        | 207<br>3000 | 414<br>6000 | 690<br>10000 | 1034<br>15000 | 1207<br>17500 | 1379<br>20000 | 2000 BAR<br>29000 PSI |  |
|                               | Operational Mode  | Absolute   |                                   |             |             |              |               |               |               |                       |  |
|                               | Over Pressure   | 2 Times FSP to 5000 PSI (350 BAR); 1.5 Times FSP For Higher Pressure Ranges to a Max. of 40,000 PSI (2760 BAR) |                                   |             |             |              |               |               |               |                       |  |
|                               | Burst Pressure  | 3 Times Rated Pressure to a Max. of 40,000 PSI (2760 BAR)  |                                   |             |             |              |               |               |               |                       |  |
|                               | Pressure Media  | Any Liquid or Gas Compatible With Inconel 625 and Selected O-Ring  |                                   |             |             |              |               |               |               |                       |  |
|                               | Rated Electrical Excitation                             | 5 VDC  |                                   |             |             |              |               |               |               |                       |  |
|                               | Maximum Electrical Excitation                           | 7 VDC  |                                   |             |             |              |               |               |               |                       |  |
|                               | Input Impedance   | 650 Ohms (Min.)  |                                   |             |             |              |               |               |               |                       |  |
| OUTPUT                        | Output Impedance  | 1000 Ohms (Nom.)   |                                   |             |             |              |               |               |               |                       |  |
|                               | Full Scale Output (FSO)                                 | 70 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.) | 700 KHz  |                                   |             |             |              |               |               |               |                       |  |
|                               | Insulation Resistance                                   | 100 Megohm Min. @ 50 VDC   |                                   |             |             |              |               |               |               |                       |  |
|                               | ENVIRONMENTAL   | Operating Temperature Range  | -65°F to +392°F (-55°C to +200°C) |             |             |              |               |               |               |                       |  |
| Compensated Temperature Range |   | 77°F to +392°F (25°C to +200°C)<br>(Or Uncompensated, With a Temperature Signal For Software Compensation)     |                                   |             |             |              |               |               |               |                       |  |
| Thermal Zero Shift            |   | ± 1% FS/100°F (± 1.8% FS/212°F (Max.))   |                                   |             |             |              |               |               |               |                       |  |
| Thermal Sensitivity Shift     |   | ± 1% /100°F (± 1.8% /212°F (Max.))   |                                   |             |             |              |               |               |               |                       |  |
| Linear Vibration              |   | 20g Peak, Sine 10 to 2000 Hz   |                                   |             |             |              |               |               |               |                       |  |
| Mechanical Shock              | 20g Half Sine Wave 11 msec. Duration                    |  |                                   |             |             |              |               |               |               |                       |  |
| PHYSICAL                      | Electrical Connection                                   | 4 x 28 AWG Leads 100mm (4.0") Long   |                                   |             |             |              |               |               |               |                       |  |
|                               | Weight  | 35 Grams (Nom.)  |                                   |             |             |              |               |               |               |                       |  |
|                               | Pressure Sensing Principle                              | Fully Active Four Arm Wheatstone Bridge Dielectrically Isolated Silicon on Silicon                             |                                   |             |             |              |               |               |               |                       |  |
|                               | Mounting Torque   | 80 Inch-Pounds (Max.)  |                                   |             |             |              |               |               |               |                       |  |

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