

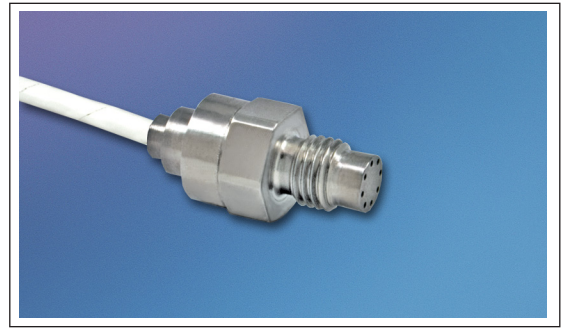


# MINIATURE RUGGEDIZED PRESSURE TRANSDUCER

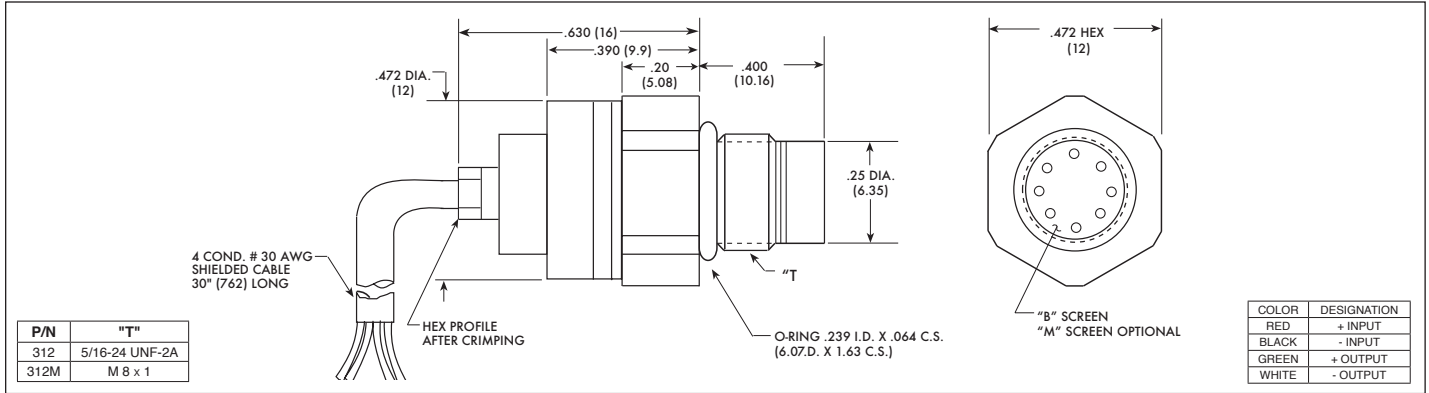
## HKL-312 (M) SERIES

- Small Pressure Sensitive Area
- Patented Leadless Technology VIS®
- High Natural Frequency
- No Internal Lead Flexing
- Extra Low G Sensitivity

The ruggedness of this sensor has not compromised its performance. It was designed for ease of installation and will operate properly in any medium compatible with 15-5 SS or SiO<sub>2</sub>. Its Patented Leadless Construction makes it possible for the sensing unit to be installed in such a way that will not compromise its high natural frequency. Part performance not guaranteed if used in water.



Kulite recommends the [KSC Series](#) of signal conditioners to maximize the measurement capability of the HKL-312 transducer.



|   | 0.7<br>10  | 1.0<br>15            | 1.7<br>25                                 | 3.5<br>50            | 7<br>100             | 17<br>250             | 35<br>500            | 70<br>1000           | 140<br>2000          | 350 BAR<br>5075 PSI  |
|---|--|----------------------|---|----------------------|----------------------|-----------------------|----------------------|----------------------|----------------------|----------------------|
| <b>INPUT</b>  |  |                      |   |                      |                      |                       |                      |                      |                      |                      |
| Pressure Range  |  |                      |   |                      |                      |                       |                      |                      |                      |                      |
| Operational Mode  | Absolute, Gage, Differential   |                      | Absolute, Gage, Sealed Gage, Differential |                      |                      | Absolute, Sealed Gage |                      |                      |                      |                      |
| Over Pressure   | 2 Times Rated Pressure to 500 PSI (35 BAR), 1.5 Times Rated Pressure Above 500 PSI (35 BAR) to a Maximum of 7500 PSI (517 BAR) |                      |   |                      |                      |                       |                      |                      |                      |                      |
| Burst Pressure  | 3 Times Rated Pressure to a Maximum of 7500 PSI (517 BAR)  |                      |   |                      |                      |                       |                      |                      |                      |                      |
| Pressure Media  | All Nonconductive, Noncorrosive Liquids or Gases (Most Conductive Liquids and Gases - Please Consult Factory)                  |                      |   |                      |                      |                       |                      |                      |                      |                      |
| 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                 | 1400                 | 2100                 |
| 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> | 2.0x10 <sup>-5</sup> | 1.5x10 <sup>-5</sup> |
| Insulation Resistance                                   | 100 Megohm Min. @ 50 VDC   |                      |   |                      |                      |                       |                      |                      |                      |                      |
| <b>ENVIRONMENTAL</b>                                    |  |                      |   |                      |                      |                       |                      |                      |                      |                      |
| Operating Temperature Range                             | -20°F to +250°F (-29°C to +120°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.)   |                      |   |                      |                      |                       |                      |                      |                      |                      |
| 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 30 AWG Shielded Cable 30" Long   |                      |   |                      |                      |                       |                      |                      |                      |                      |
| Weight  | 17 Grams (Max.) Excluding Cable  |                      |   |                      |                      |                       |                      |                      |                      |                      |
| Pressure Sensing Principle                              | Fully Active Four Arm Wheatstone Bridge Dielectrically Isolated Silicon Patented Leadless Technology                           |                      |   |                      |                      |                       |                      |                      |                      |                      |
| Mounting Torque   | 50 Inch-Pounds (Max.) 6Nm  |                      |   |                      |                      |                       |                      |                      |                      |                      |

Note: Custom pressure ranges, accuracies and mechanical configurations available. Dimensions are in inches. Dimensions in parenthesis are in millimeters. All dimensions nominal. (1) Continuous development and refinement of our products may result in specification changes without notice. Copyright © 2016 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.