



# MINIATURE PRESSURE TRANSDUCER WITH INTEGRATED TEMPERATURE SENSOR

## HKMT-519-562 SERIES

- Combined Pressure and Temperature Measurement Capability
- Excellent Stability
- All Welded Construction
- Hermetic Sealed Package
- Robust Construction
- High Natural Frequencies
- Aerospace Quality Components
- Intrinsically Safe Applications Available (i.e. IS-HKM/T-519-562)

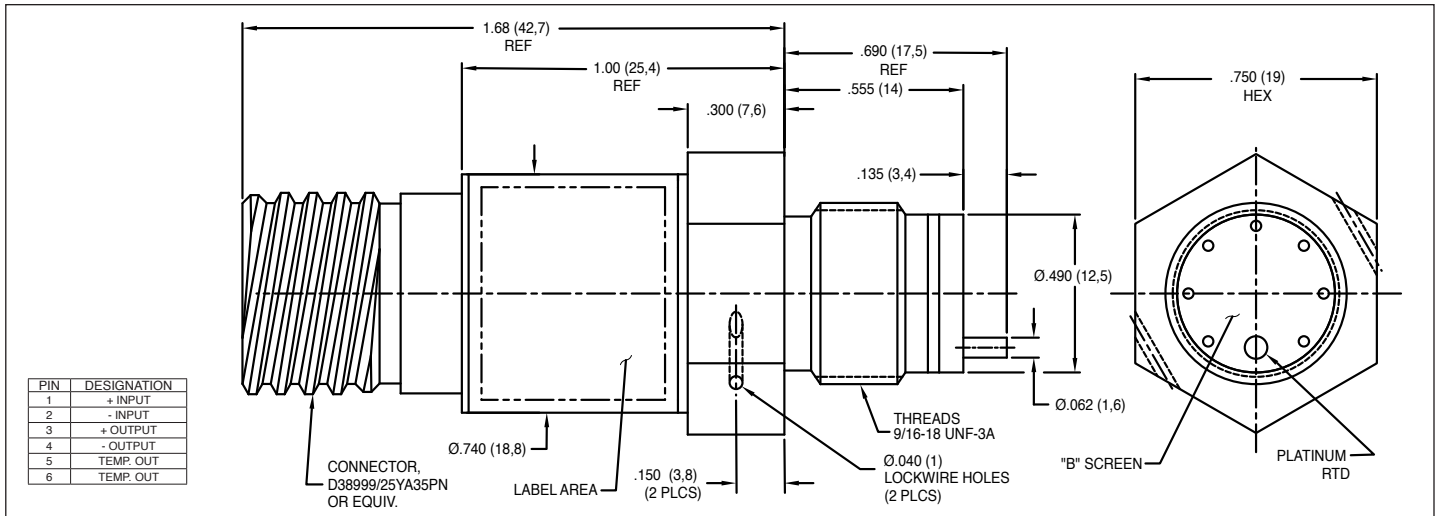


The HKM/T-519-562 is a miniature threaded pressure transducer. The hexagonal head and o-ring seal make it easy to mount and simple to apply.

The HKM/T-519-562 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 an intervening film of non-compressible silicone oil. The platinum RTD protrudes beside the diaphragm to sense media temperature. The pressure and temperature devices are designed to operate independently. This sensing sub assembly is welded to

a stainless steel body.

This advanced construction results in a highly stable, reliable and rugged instrument with all the advantages of microcircuitry: 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 even in shock pressure measurements.



|                               | 7<br>100  | 17<br>250 | 35<br>500 | 70<br>1000 | 140<br>2000 | 210<br>3000 | 350 BAR<br>5000 PSI |
|-------------------------------|---|-----------|-----------|------------|-------------|-------------|---------------------|
| <b>INPUT</b>                  |   |           |           |            |             |             |                     |
| Pressure Range                |   |           |           |            |             |             |                     |
| Operational Mode              | Absolute, Sealed Gage   |           |           |            |             |             |                     |
| Over Pressure                 | 2 Times Rated Pressure to a Max. of 8000 PSI (552 BAR)  |           |           |            |             |             |                     |
| Burst Pressure                | 3 Times Rated Pressure to a Max. of 8000 PSI (552 BAR)  |           |           |            |             |             |                     |
| Pressure Media                | Any Liquid or Gas Compatible with 15-5 PH and 316 Stainless Steel                             |           |           |            |             |             |                     |
| Rated Electrical Excitation   | 10 VDC  |           |           |            |             |             |                     |
| Maximum Electrical Excitation | 12 VDC  |           |           |            |             |             |                     |
| Input Impedance               | 1000 Ohms (Min.)  |           |           |            |             |             |                     |
| RTD Excitation                | 1mA (2mA Max.)  |           |           |            |             |             |                     |
| <b>OUTPUT</b>                 |   |           |           |            |             |             |                     |
| Output Impedance              | 3000 Ohms (Max.)  |           |           |            |             |             |                     |
| Full Scale Output             | 100 mV  |           |           |            |             |             |                     |
| RTD                           | 1000 Ohms Platinum, DIN EN 60751 Tables, Class A (65% Response Time 3 Seconds Max. in Liquid) |           |           |            |             |             |                     |
| Residual Unbalance            | 0 mV  |           |           |            |             |             |                     |
| Resolution                    | Infinitesimal   |           |           |            |             |             |                     |
| Insulation Resistance         | 100 Megohm Min. @ 50 VDC  |           |           |            |             |             |                     |
| <b>ENVIRONMENTAL</b>          |   |           |           |            |             |             |                     |
| Operating Temperature Range   | -65°F to +250°F (-55°C to +121°C)   |           |           |            |             |             |                     |
| Compensated Temperature Range | +32°F to +180°F (0°C to +85°C)  |           |           |            |             |             |                     |
| Total Error Band              | ± 2% FSO +32°F to 180°F (0°C to +85°C)  |           |           |            |             |             |                     |
| Linear Vibration              | 20g Peak, Sine 10 to 2000 Hz  |           |           |            |             |             |                     |
| Altitude                      | Unaffected  |           |           |            |             |             |                     |
| Humidity                      | 100% Relative Humidity  |           |           |            |             |             |                     |
| Mechanical Shock              | 20g Half Sine Wave 11 msec. Duration  |           |           |            |             |             |                     |
| <b>PHYSICAL</b>               |   |           |           |            |             |             |                     |
| Electrical Connection         | D38999/25YA35PN Connector or Equivalent   |           |           |            |             |             |                     |
| Weight                        | 17 Grams (Max.)   |           |           |            |             |             |                     |
| 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. (B) Continuous development and refinement of our products may result in specification changes without notice. Copyright © 2023 Kulite Semiconductor Products, Inc. All Rights Reserved.