

MINIATURE HIGH PRESSURE IS® PRESSURE TRANSDUCER

HKM-312 (M) SERIES

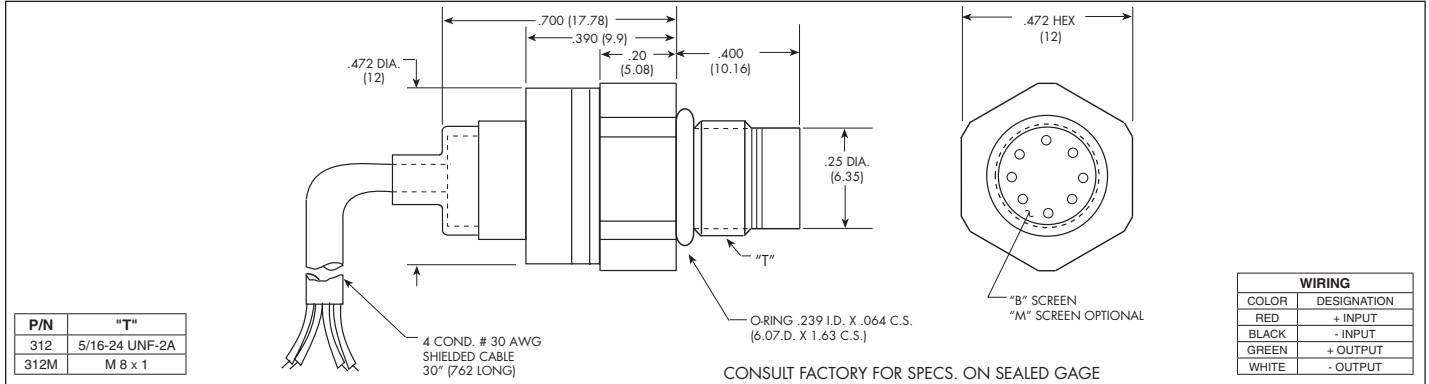
- Excellent Stability
- All Welded Construction
- Robust Construction
- Silicon on Silicon Integrated Sensor **VIS®**
- High Natural Frequencies
- 5/16-24 UNF-2A or M8 X 1 Thread
- Intrinsically Safe Applications Available (i.e. IS-HKM-312)



The HKM-312 is a miniature threaded pressure transducer. The hexagonal head and o-ring seal make it easy to mount and simple to apply.

The HKM-312 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. 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.



P/N	"T"
312	5/16-24 UNF-2A
312M	M 8 x 1

INPUT	35	70	200	350 BAR
Pressure Range	500	1000	2900	5000 PSI
Operational Mode	Absolute, Sealed Gage			
Over Pressure	2 Times Rated Pressure to a Max. of 30000 PSI (2100 BAR)			
Burst Pressure	3 Times Rated Pressure to a Max. of 35000 PSI (2400 BAR)			
Pressure Media	Any Liquid or Gas Compatible With 15-5 PH or 316 Stainless Steel			
Rated Electrical Excitation	10 VDC			
Maximum Electrical Excitation	15 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 (KHz) (Typ.)	Greater Than 400 KHz			
Acceleration Sensitivity % FS/g Perpendicular	1.1x10 ⁻⁴	6.2x10 ⁻⁵	2.4x10 ⁻⁵	1.5x10 ⁻⁵
Transverse	7.0x10 ⁻⁶	4.3x10 ⁻⁶	2.0x10 ⁻⁶	1.5x10 ⁻⁶
Insulation Resistance	100 Megohm Min. @ 50 VDC			
ENVIRONMENTAL				
Operating Temperature Range	-65°F to +250°F (-55°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	100g Peak, Sine up to 5000 Hz			
Humidity	100% Relative Humidity			
Mechanical Shock	20,000g, 100µ sec.			
PHYSICAL				
Electrical Connection	4 Conductor 30 AWG Shielded Cable 30" Long (Optional Connector Available)			
Weight	15 Grams (Max.) Excluding Cable			
Pressure Sensing Principle	Fully Active Four Arm Wheatstone Bridge Dielectrically Isolated Silicon on Silicon			
Mounting Torque	75 Inch-Pounds (Max.)			

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