

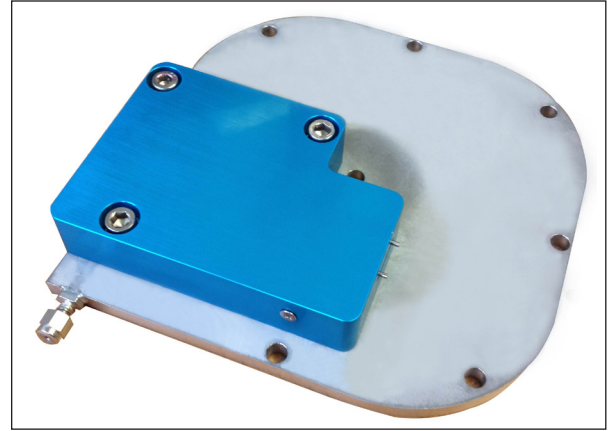


EXTREME TEMPERATURE REMOTE SENSING DYNAMIC WAVEGUIDE PRESSURE PROBE

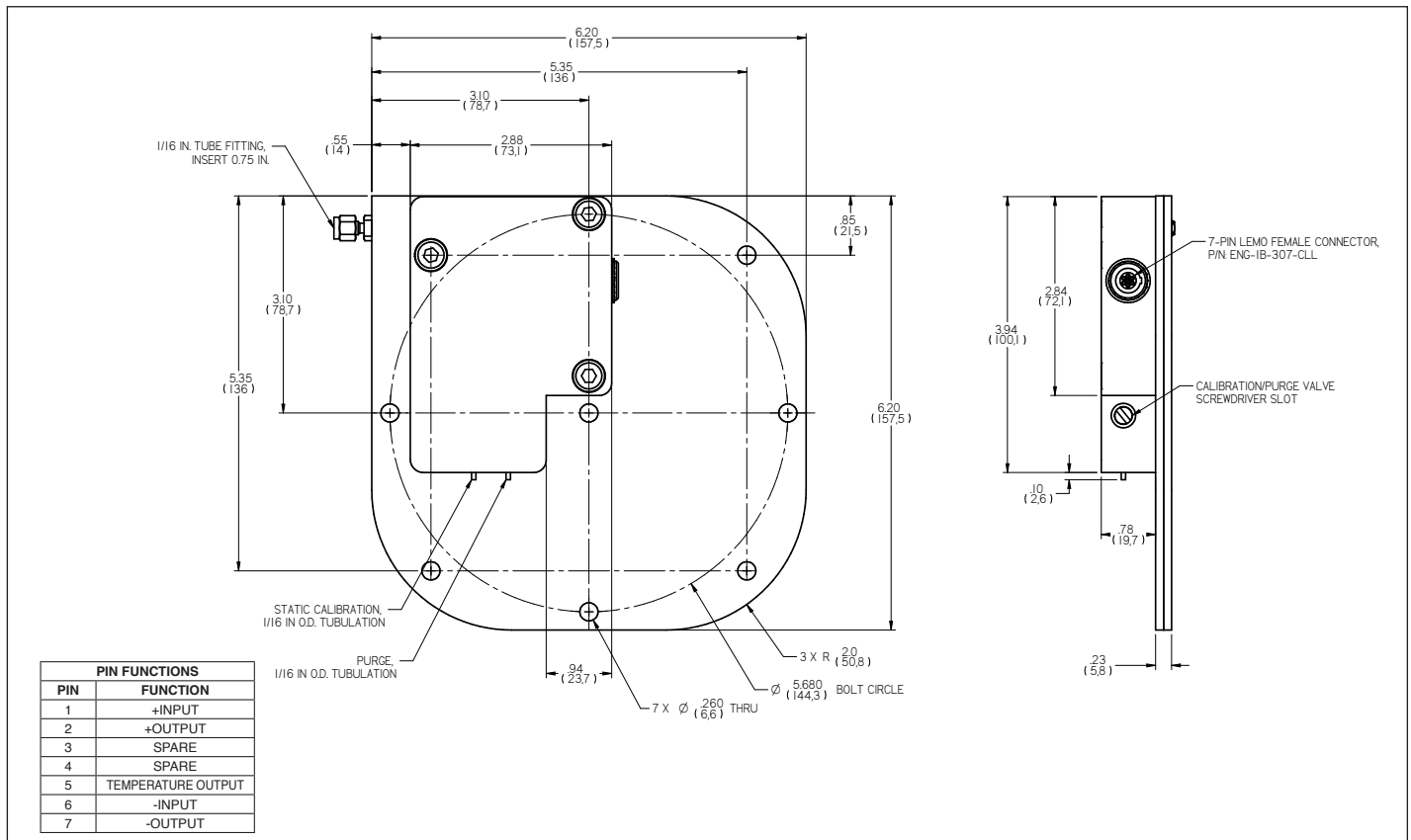
DWPP-040 Series

- Drop-In Semi-Infinite Tube Replacement
- Mates With Standard 0.0625in. (1.6mm) OD, 0.04in (1mm) ID Tubing
- Ideal for Dynamic Pressure Measurements in Ultra-High-Temperature Locations
- Optimized Flat Bandwidth When Used With REZCOMP®: 5 Hz - 5 kHz +/- 2dB

The DWPP-040 is a dynamic only pressure probe that was designed to measure the low-amplitude dynamic pressures within the hot sections of gas turbines, such as combustion instabilities, compressor rotating stall and surge, as well as screech and rumble. It features a ruggedized diffusion bonded stainless steel construction with a built-in, replaceable high-temperature piezoresistive pressure transducer as well as a calibration and purge valve for static pressure recalibration of the sensor and removing debris and water from the internal channel. These features enable the DWPP-040 to overcome many of the historic drawbacks of standard Semi-Infinite Tubes and Waveguides used within the engine test environment.



When dynamic pressure measurements are needed within the hot sections of a gas turbine, the DWPP-040 mates with standard 0.0625in (1.6mm) OD x 0.040in (1mm) ID tubing exiting the engine at the point of measurement, eliminating costly engine casing modifications to accommodate custom transducer ports. Temperatures at the point of measurement in the engine can exceed 2000°C (3600°F) with the recess tube allowing for natural convective cooling. The DWPP-040 features an internal waveguide to dampen dynamic pressures via viscous dissipation such that acoustic resonances do not contaminate the frequency response. When used with REZCOMP®, a flat frequency response from 5 Hz – 5 kHz +/- 2 dB is achieved.



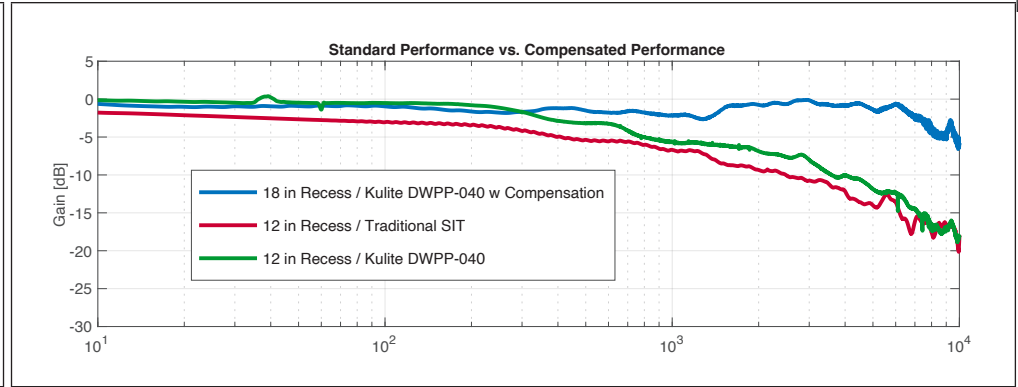
	10 70	15 103	25 172	50 PSI 345 kPa	
INPUT	Rated Differential Pressure Range				
	Line Pressure (Air Only)	500 PSI (Max.) 3450 kPa (Max.)			
	Rated Electrical Excitation	10 VDC			
	Maximum Electrical Excitation	12 VDC			
OUTPUT	Input Impedance	1000 Ohms (Min.)			
	Output Impedance	1000 Ohms (Nom.)			
	Full Scale Output (FSO)	100 mV (Nom.)			
	Residual Unbalance	± 10 mV (Typ.), ± 20 mV (Max.)			
	Combined Non-Linearity, Hysteresis and Repeatability	± 0.2% FSO BFSL (Typ.), ± 1% FSO BFSL (Max.)		± 0.1% FSO BFSL (Typ.), ± 0.5% FSO (Max.)	
Insulation Resistance	100 Megohm Min. @ 50 VDC				

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 © 2021 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 and for details regarding suggested recess tube lengths, please consult the factory.

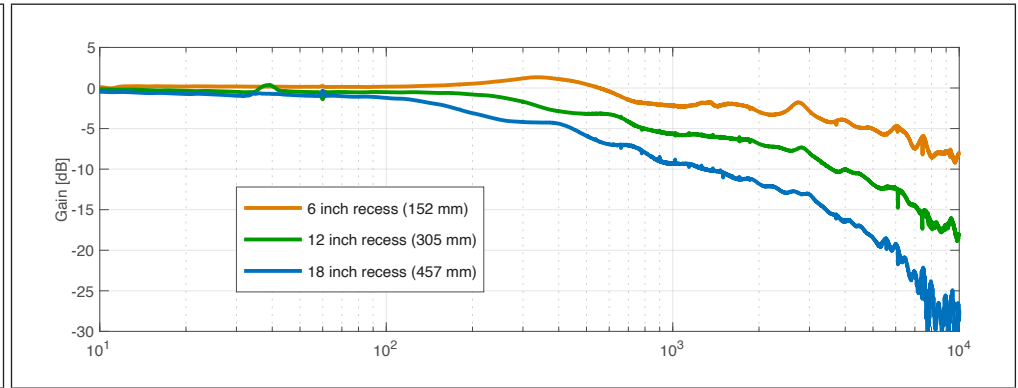
ENVIRONMENTAL	Temperature at Point of Measurement	-65°F to +3632°F (-55°C to +2000°C), Dependent on ambient temperature and recess tube length and material
	Operating Temperature Range	-15°F to +400°F (-26°C to 204°C)
	Compensated Temperature Range	-15°F to +400°F (-26°C to 204°C)
	Thermal Zero Shift	± 1% FS/100°F (Typ.)
	Thermal Sensitivity Shift	± 1% /100°F (Typ.)
PHYSICAL	Linear Acceleration	10-2000Hz 15g (Connector Limited)
	Electrical Connection	7-Pin, Lemo Connector (P/N: ENG-1B-307-CLL, Mating Connector P/N: FGG-1B-307-CLAD52Z)
	Mass	1.2kg
	Pressure Sensing Principle	Fully Active Four Arm Wheatstone Bridge Dielectrically Isolated Silicon on Silicon Patented Leadless Technology

OUTPUT

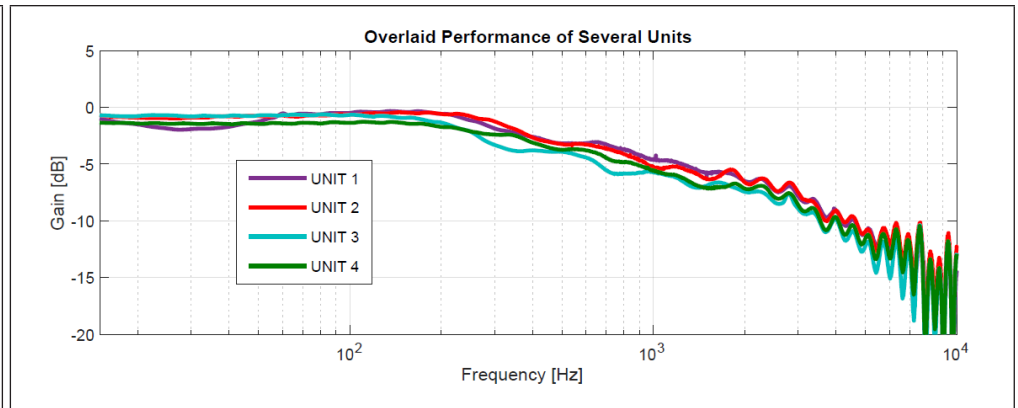
Comparison of DWPP-040 with and without compensation to Traditional SIT



DWPP-040 Transfer Functions at Various Recess Lengths



Consistent Performance: Units are Interchangeable



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