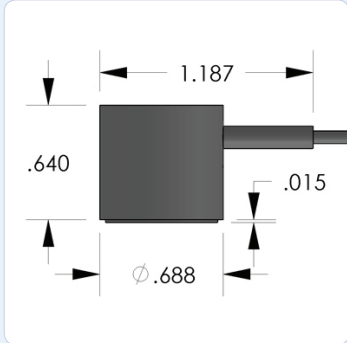


**PRODUCT DATA SHEET**

**WD Sensor**

**Wideband Differential Sensor**



**DESCRIPTION AND FEATURES**

WD is a true differential wideband sensor with a very high sensitivity and bandwidth. It has a very good frequency response over the range of 100 – 900 kHz. Differential sensors differ from their general purpose counterparts by employing two sensing elements with opposite polarization directions. The two signal leads feed into a differential pre-amplifier which eliminates common-mode noise resulting in a lower noise output from the pre-amplifier. Noise improvements to the tune of 2 dB can be achieved using differential sensors over a single ended sensor. This sensor features a rugged steel construction with an integrated twin axial cable exiting on the side.

**APPLICATIONS**

This sensor is well suited for structural health monitoring of large structures like storage tanks, pipelines etc. This sensor is an ideal candidate for applications requiring high bandwidth for frequency analysis of the AE signals for noise discrimination and source identification. Wideband sensors are particularly well suited for research applications where a high fidelity AE response is required. It can be easily mounted using epoxy.

**OPERATING SPECIFICATIONS**

*Dynamic*

Peak Sensitivity, Ref V/(m/s) ..... 56 dB  
 Peak Sensitivity, Ref V/ $\mu$ bar ..... -61 dB  
 Operating Frequency Range ..... 125-1000 kHz  
 Resonant Frequency, Ref V/(m/s) ..... 125 kHz  
 Resonant Frequency, Ref V/ $\mu$ bar ..... 450 kHz  
 Directionality ..... +/-1.5 dB

*Environmental*

Temperature Range ..... -65 to 177°C  
 Shock Limit ..... 500 g  
 Completely enclosed crystal for RFI/EMI immunity

*Physical*

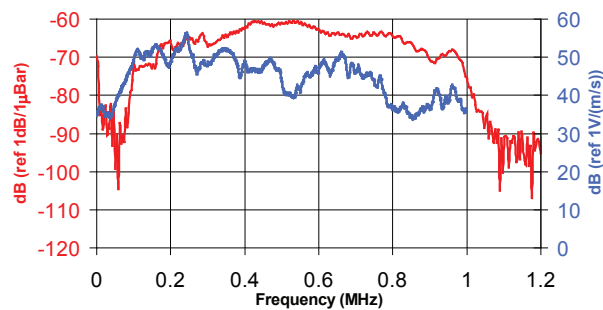
Dimensions ..... 0.7"OD X 0.65"H  
 17.8 mm OD X 16.5 mm H  
 Weight ..... 20 grams  
 Case Material ..... Stainless Steel  
 Face Material ..... Ceramic  
 Connector ..... BNC  
 Connector Locations ..... Side

**ORDERING INFORMATION AND ACCESSORIES**

WD ..... WD  
 Cable (specify length in 'XX' m at end of PN) ..... 1 m  
 Magnetic Hold-Down ..... MHSTD  
 Pre-Amplifier ..... 0/2/4, 2/4/6  
 Preamp to System Cable (specify length in 'm') ..... 1234-X  
 Amplifier Subsystems ..... AE2A or AE5A

*Sensors include*

NIST Calibration Certificate & Warranty



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