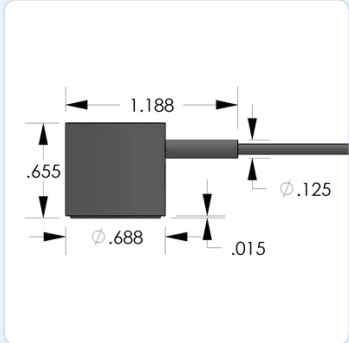


**PRODUCT DATA SHEET**

**D9203B Sensor**

**Wideband Differential Sensor**

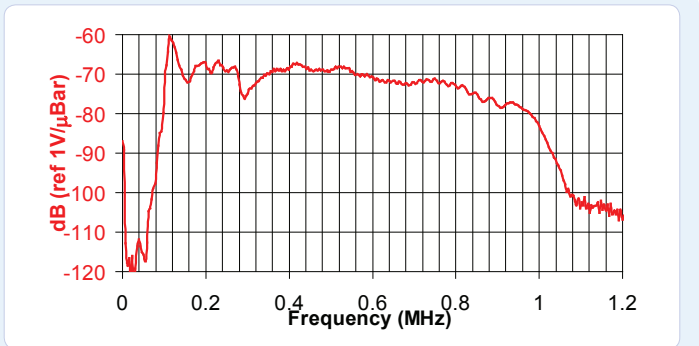


**DESCRIPTION AND FEATURES**

D9203B is a wideband differential sensor with a very high sensitivity and bandwidth. It has a very good frequency response over the range of 150 – 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**

Differential sensors are used in environments where very low level AE signals need to be processed, they are particularly useful in environments with high background noise. This sensor is well suited for structural health monitoring of large structures like storage tanks, pipelines etc. Wideband sensors are 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) ..... 65 dB  
 Peak Sensitivity, Ref V/μbar ..... -60 dB  
 Operating Frequency Range ..... 150-900 kHz  
 Resonant Frequency, Ref V/(m/s) ..... 175 kHz  
 Resonant Frequency, Ref V/μbar ..... 500 kHz  
 Directionality ..... +/-1.5 dB

*Environmental*

Temperature Range ..... -65 to 125°C  
 Shock Limit ..... 500 g  
 Completely enclosed crystal for RFI/EMI immunity

*Physical*

Dimensions ..... 0.7"OD X 0.65"H  
 18 mm OD X 17 mm H  
 Weight ..... 8 grams  
 Case Material ..... Stainless steel  
 Face Material ..... Ceramic  
 Connector ..... BNC  
 Connector Locations ..... Side

**ORDERING INFORMATION AND ACCESSORIES**

D9203B ..... D9203B  
 Cable (specify length in 'XX' at end of PN) ..... 1 m  
 Cable (Pre-amplifier to system) ..... 1234-X  
 Magnetic Hold-Down ..... MHSTD  
 Amplifier Subsystems ..... AE2A, AE5A  
 Pre-Amplifier ..... 0/2/4, 2/4/6

*Sensors include*

NIST Calibration Certificate & Warranty



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