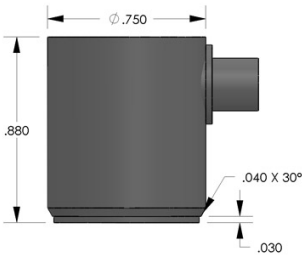


## PRODUCT DATA SHEET

### F15 $\alpha$ Sensor

#### General Purpose Sensor

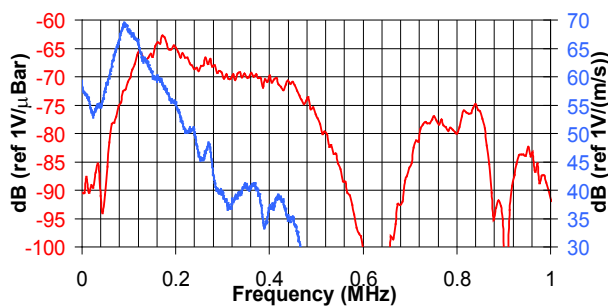


#### DESCRIPTION AND FEATURES

The F-series sensors are designed to incorporate the latest advances in materials and transducer design principles. These sensors unlike the resonant sensors (R-series) have a very high sensitivity and flat response in the bandwidth of operation. The F15A is a wideband sensor with a flat frequency response over the range of 100 – 450 kHz. This sensor is an ideal candidate for applications requiring high bandwidth for frequency analysis of the AE signals for noise discrimination and source identification. This sensor features a rugged steel construction and an SMA connector exiting from the side of the sensor.

#### APPLICATIONS

This sensor is well suited for structural health monitoring of large structures like storage tanks, pipelines etc. Flat response of these sensors help eliminate the sharp rise and fall in the sensitivity with frequency commonly seen in resonant sensors, providing additional information for engineers to analyze. 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).....	70 dB
Peak Sensitivity, Ref V/μbar.....	-62 dB
Operating Frequency Range.....	100-450 kHz
Resonant Frequency, Ref V/(m/s).....	75 kHz
Resonant Frequency, Ref V/μbar.....	150 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.....	0.75"OD X 0.88"H
	19 mm OD X 22.4 mm H
Weight.....	34 grams
Case Material.....	Stainless steel
Face Material.....	Ceramic
Connector.....	SMA
Connector Locations.....	Side
Sensor to Preamp Cable (1 or 2 meters).....	1232-X-SMA

#### ORDERING INFORMATION AND ACCESSORIES

F15 $\alpha$ .....	F15 $\alpha$ or F15a
Cable (specify length in 'm').....	1232-X-SMA
Magnetic Hold-Down.....	MHR15A
Pre-amplifier.....	0/2/4, 2/4/6, 1220
Preamp to System Cable (specify length in 'm').....	1234-X

##### Sensors include

NIST Calibration Certificate & Warranty



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