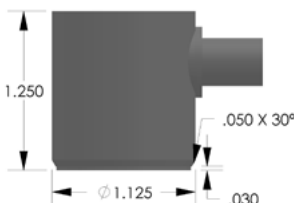


F15I-AST Sensor

Integral Preamplifier 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 F15I is an integral preamplifier 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)	110 dB
Peak Sensitivity, Ref V/ μ bar	-22 dB
Operating Frequency Range	100-450 kHz
Resonant Frequency, Ref V/(m/s)	75 kHz
Resonant Frequency, Ref V/ μ bar	150 kHz
Directionality	+/-1.5 dB

Environmental

Temperature Range	-35 to 75°C
Shock Limit	500 g
Completely enclosed crystal for RFI/EMI immunity	

Physical

Dimensions	1.125"OD X 1.25"H 28.5 mm OD X 31.8 mm H
Weight	70 grams
Case Material	Stainless steel
Face Material	Ceramic
Connector	BNC
Connector Locations	Side

Electrical

Gain	40 dB
Power Requirements	20-30 VDC @ 25 mA
Dynamic Range	> 87 dB
Noise Level (RMS RTI)	< 3 μ V
Output Drive Impedance	50 Ω
Grounding	Case Grounding, Isolated from mounting surface

ORDERING INFORMATION AND ACCESSORIES

F15I-AST	F15I-AST
Cable (specify length in 'm')	1234-X
Magnetic Hold-Down	MHR15A
Pre-amplifier	0/2/4, 2/4/6

Sensors include

NIST Calibration Certificate & Warranty

