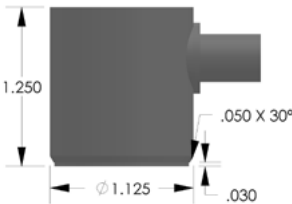


F30I-AST Sensor

Integral Preamplifier Sensor

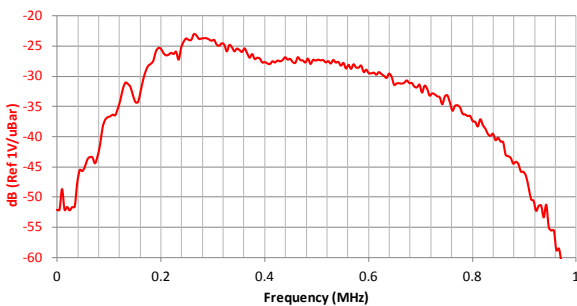


DESCRIPTION AND FEATURES

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 F30I is an integral preamplifier wideband sensor with a flat frequency response over the range of 150 – 700 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)	98 dB
Peak Sensitivity, Ref V/μbar	-23 dB
Operating Frequency Range	150-700 kHz
Resonant Frequency, Ref V/(m/s)	300 kHz
Resonant Frequency, Ref V/μbar	300 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 μV
Output Drive Impedance	50 Ω
Grounding	Case Grounding, Isolated from mounting surface

ORDERING INFORMATION AND ACCESSORIES

F30I-AST	F30I-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

