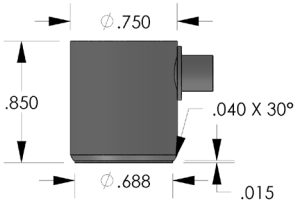
MISTRAS

PHYSICAL ACOUSTICS CORPORATION

PRODUCT DATA SHEET

F50α Sensor

General Purpose Sensor

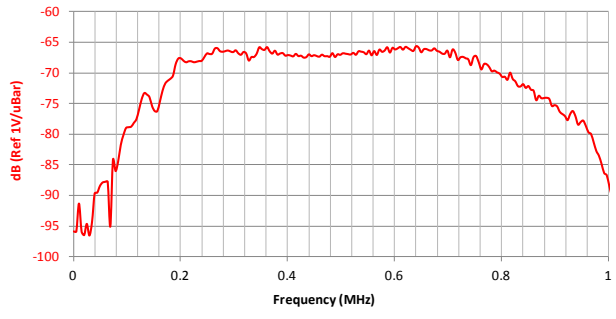


DESCRIPTION AND FEATURES

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 F50A is a wideband sensor with a flat frequency response over the range of 200 – 800 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) ..... 65 dB
Peak Sensitivity, Ref V/µbar ..... -65 dB
Operating Frequency Range ..... 200-800 kHz
Resonant Frequency, Ref V/(m/s) ..... 100 kHz
Directionality ..... +/-1.5 dB

Environmental

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

Physical

Dimensions ..... 0.75"OD X 0.85"H
19 mm OD X 21.6 mm H
Weight ..... 34 grams
Case Material ..... Stainless steel
Face Material ..... Ceramic
Connector ..... SMA
Connector Locations ..... Side

ORDERING INFORMATION AND ACCESSORIES

F50α ..... F50α or F50a
Cable (specify length in 'm') 1232-X-SMA
Magnetic Hold-Down MHR15A
Pre-amplifier 0/2/4, 2/4/6

Sensors include

NIST Calibration Certificate & Warranty

ISO 9001

WORLDWIDE HEADQUARTERS:
195 Clarksville Rd •
Princeton Jct, NJ 08550 • USA
T: +1.609.716.4000 • F: +1.609.716.0706
E-MAIL: sales.systems@mistrasgroup.com

CANADA	T: +1.403.556.1350	**HOLLAND**	T: +31.010.245.0325	**SCANDINAVIA**	T: +46(0)31.252040
CHINA	T: +86.10.5877.3672	**INDIA**	T: +91.22.2586.2444	**S. AMERICA**	T: +55.11.3082.5111
FRANCE	T: +331.498.26040	**JAPAN**	T: +81.33.498.3570	**UK**	T: +44(0)1954.231.612
GERMANY	T: +49.040 2000.4025	**MIDDLE EAST**	T: +44(0)1954.231.612		
GREECE	T: +30.210.2846.801	**RUSSIA**	T: +7495.789.4549		

Specifications subject to change without notice. Copyright © 2013 MISTRAS Group, Inc. All Rights Reserved.