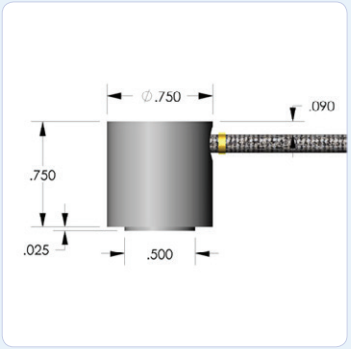
MISTRAS

PRODUCT DATA SHEET

S9215 Sensor

High Temperature Sensor

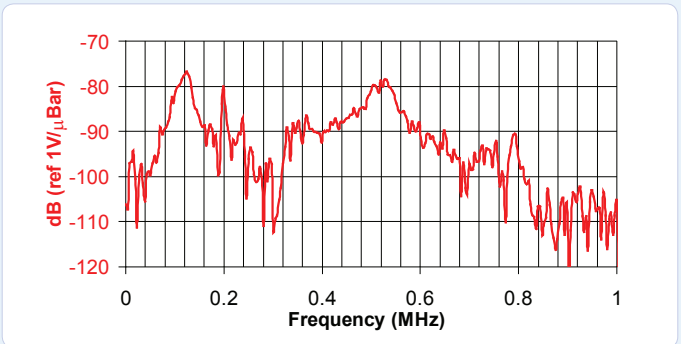


DESCRIPTION AND FEATURES

The S9215 is a high temperature, radiation resistant AE sensor, specially designed for the nuclear power industry. It features a rugged cavity made from Inconnel 600 and an integral 2 ft long "hard-line" cable. The hardline cable is crimped to a softline coaxial cable made from Tefzel which interfaces the sensor to instrumentation. The sensor is tightly sealed by welding for use in harsh nuclear environment. The sensor has a 100 kHz resonance frequency and 80 kHz to 560 kHz bandwidth. All the materials used in this sensor have been proven for use in nuclear environments. The Maximum operating temperature of the sensor is 540ºC and the softline cable can be operated at a maximum temperature of 150ºC.

APPLICATIONS

The sensor is suitable for use in high temperature radiation environments such as in Nuclear Power Plants. They can be used for monitoring high temperature equipment in power plants, aerospace engine monitoring, pipelines etc.



OPERATING SPECIFICATIONS

Dynamic

Peak Sensitivity, Ref V/(m/s) ..... 52 dB
Peak Sensitivity, Ref V/µbar ..... -80 dB
Operating Frequency Range ..... 50-650 KHz
Resonant Frequency, Ref V/(m/s) ..... 60 dB
Resonant Frequency, Ref V/µbar ..... 100 KHz
Directionality ..... +/- 1.5 dB

Environmental

Temperature Range ..... -200 to 540ºC
Relative Humidity 90%
Shock Limit ..... 10,000 g
Gamma ray 40 yr integrated dose (rads)* ..... $1x10^9$
Neutron flux 40 yr integrated dose (n/cm²) ..... $2.23x10^{17}$

Physical

Dimensions ..... 0.8"OD X 0.8"H
..... 20 mm OD X 20 mm H
Weight ..... 60 grams (with hardline and w/o softline)
Case Material ..... Inconnel 600
Face Material ..... Inconnel 600
Connector ..... Dual BNC on softline
Connector Locations ..... Side
Seal ..... Welding
Impedance (conduction to ground) ..... >20 MΩ

ORDERING INFORMATION AND ACCESSORIES

S9215 ..... S9215
Cable (specify length in '-XX' m at end of PN) 1234-X
Pre-amplifier 2/4/6, 1222
Preamp to System Cable (specify length in 'm') 1234-X
Amplifier Subsystems AE2A, AE5A
Other IS Sensors are available with various resonant frequencies.

Sensors include

NIST Calibration Certificate & Warranty

* *1. Sensor Cable must be kept without large relative motion if above 300 MRad's.*
2. BNC Connectors can be used beyond 1 MRad with suitable non-Teflon radiation resistant insulators.

ISO 9001