



ISR15 Sensor

Intrinsically Safe Acoustic Emission Sensor

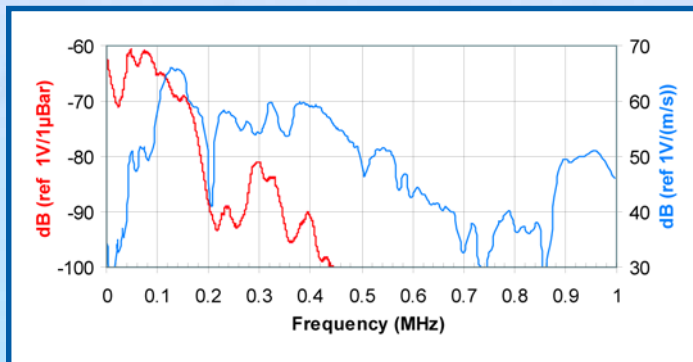
Description and Features

The ISR15 is a 150 kHz resonant frequency sensor that was designed specially to meet Intrinsic Safety (IS) and IP65 environmental requirements. Certified as Intrinsically Safe (IS) for use with our 1276-2 IS preamplifier and 1276-1 IS ASL-C subsystem, this sensor has a thicker ceramic wear-plate and an epoxy coating completely covering the sensor and cable exit. An IS voltage protection circuit is built into the sensor.

It has an integrated one-meter long differential cable with extruded TPE jacket and a pigtail for connecting into a 1276 IS Preamplifier or Subsystem. The sensor has similar frequency response as the R15 sensor. Its maximum operating temperature is 125°C.

Applications

This sensor provides a good mix of high sensitivity and high low frequency rejection. These properties make the sensor very useful for monitoring common structures such as pipelines, vessels, bridges, and storage tanks in petroleum, refineries, chemical plants, offshore platforms, where intrinsically safe sensors and systems are required.



Frequency response of the ISR15. Calibration based on ASTM E1106; Calibration based on ASTM E976.

Operating Specifications

Dynamic

Peak Sensitivity, Ref V/(m/s)	69 dB
Peak Sensitivity, Ref V/µbar	-62 dB
Operating Frequency Range	50 - 200 kHz
Resonant Frequency, Ref V/(m/s)	75 kHz
Resonant Frequency, Ref V/µbar	150 kHz
Directionality	+/-1.5 dB

Environmental

Temperature Range	-45 to 125°C
Shock Limit	1,000 g
Completely shielded crystal for maximum RFI/EMI immunity	

Physical

Dimensions	0.89" diameter x 0.755" h (22.6 x 19.2 mm)
Weight	27 grams with 1 meter cable
Case Material	Stainless Steel/Epoxy
Face Material	Ceramic
Connector	Pigtail
Connector Locations	Side
Seal	Epoxy
Sensor to Preamp Cable (1 meter)	Integral

Ordering Information and Accessories

ISR15	ISR15
Preamplifier	1276-2
ASL-4-20 ma Subsystem	1276-1
Preamp to System Cable	1276C
IS Zener Barrier	1276B

Other IS Sensors are available with various resonant frequencies.

Sensors include

NIST Calibration Certificate & Warranty



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