



# ISR50 Sensor

## Intrinsically Safe Acoustic Emission Sensor

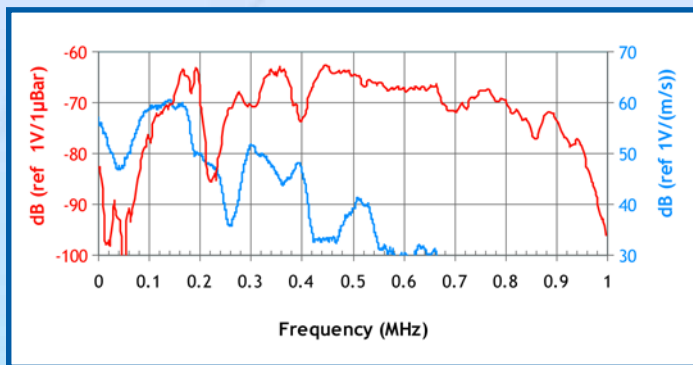
### Description and Features

The ISR50 is a 500 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 R50 sensor. Its maximum operating temperature is 125°C.

### Applications

This sensor is useful in very noisy plant and process monitoring applications and is particularly suited to such applications as welding monitoring and control, where intrinsically safe sensors and systems are required.



Frequency response of the ISR50. Calibration based on ASTM E1106; Calibration based on ASTM E976.

### Operating Specifications

#### Dynamic

Peak Sensitivity, Ref V/(m/s) .....	62 dB
Peak Sensitivity, Ref V/µbar .....	-65 dB
Operating Frequency Range .....	100 - 700 kHz
Resonant Frequency, Ref V/(m/s) .....	100 kHz
Resonant Frequency, Ref V/µbar .....	500 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

ISR50 .....	ISR50
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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