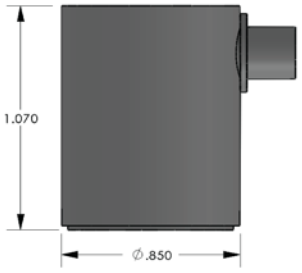
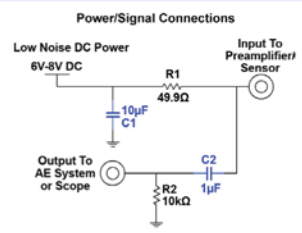
PRODUCT DATA SHEET

ISPK6I Sensor

Intrinsically Safe Sensor



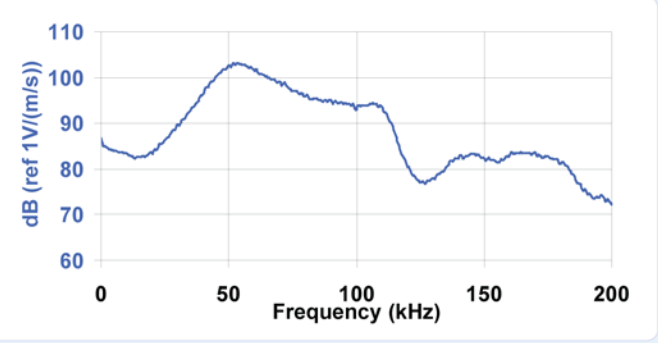


DESCRIPTION AND FEATURES

ISPK6I is a low frequency, resonant acoustic emission sensor with an integral ultra low noise and low power preamplifier. It is designed to meet the intrinsic safety (IS) standards (when used with our 1281-IS AE interface), and IP65 environmental requirements. The bandpass filtered preamplifier has a gain of 26 dB and can drive up to 200 meters of cable. This sensor represents an improvement in both noise and power consumption. With noise level below 3 µV and power consumption as little as 25 mW, the sensor is ideal for use with battery powered portable equipment. The ISPK6I features an anodized aluminum cavity with an SMA connector exiting to the side. The preamplifier features an auto sensor testing (Tone Burst AST) feature through which the sensor can be used both as pulser and receiver.

APPLICATIONS

The sensor can be used in any application with a noisy environment and requiring a small, narrowband frequency response with intrinsic safe certification.



OPERATING SPECIFICATIONS

Dynamic

Peak Sensitivity, Ref V/(m/s) ..... 106 dB
Operating Frequency Range ..... 35-65 kHz
Resonant Frequency, Ref V/(m/s) ..... 55 kHz

Environmental

Temperature Range ..... -35 to 80ºC
Shock Limit ..... 500 g
Completely enclosed crystal for RFI/EMI immunity

Physical

Dimensions ..... 0.85"OD X 1.06"H
21 mm OD X 27 mm H
Weight ..... 30 grams
Case Material ..... Anodized Aluminum
Face Material ..... Ceramic
Connector ..... SMA
Connector Locations ..... Side

Electrical

Gain ..... 26 dB
Preamp DC power ..... 5 V
Grounding ..... Case Grounding
(isolated from mounting surface)
Noise level at input ..... <3 µV
Preamplifier Dynamic Range ..... >87 dB
Preamplifier Impedance ..... 50 Ω

ORDERING INFORMATION AND ACCESSORIES

ISPK6I ISPK6I
Magnetic Hold-Down MHPK15I
IS Barrier/Preamplifier Interface 1281
Cable (specify length in '-XX' m) ..... 1281 IS cable-XX
..... (SMA/BNC)
Amplifier Subsystems AE2A, AE5A

Sensors include

NIST Calibration Certificate & Warranty

* AST — Auto Sensor Testing feature allows AE systems to control the sensor as a pulser and a receiver at the same time. It can therefore characterize its own condition as well as send out a simulated acoustic emission wave that other sensors can detect, so the condition of the nearby sensors also can be tested.

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