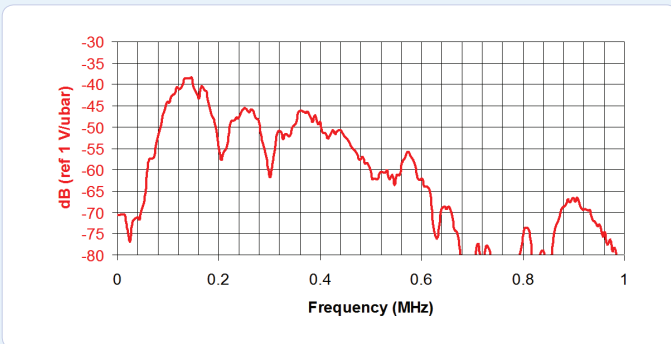
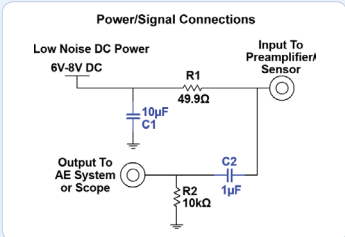
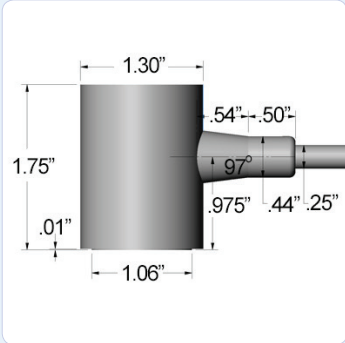


ISPK15IUC Sensor

Intrinsically Safe Underwater Sensor



DESCRIPTION AND FEATURES

The ISPK15IUC is a medium frequency, resonant acoustic emission sensor with an integral cable. It is designed to meet the intrinsic safety (IS) requirements and can operate in underwater conditions. The sensor features a 26 dB low power, low noise preamplifier that can drive up to 200 meters of cable. The special polymer coatings on the sensor along with an integral waterproof cable make it 100% insulated and non-conductive. The sensor can be used to depths of 1000 psi.

APPLICATIONS

The sensor can be readily used for structural health monitoring in environments requiring intrinsic safety. It can be used for the monitoring of structures like pipelines, pressure vessels and storage tanks in petroleum refineries, chemical plants and offshore platforms.

OPERATING SPECIFICATIONS

Dynamic

Peak Sensitivity, Ref 1V/(m/s)	94 dB
Peak Sensitivity, Ref 1V/μbar	-37 dB
Operating Frequency Range	50-400 kHz
Resonant Frequency, Ref 1V/(m/s)	75 kHz
Resonant Frequency, Ref 1V/μbar	150 kHz
Directionality	+/-1.5 dB

Environmental

Temperature Range	-55° to 70°C
Shock Limit	500 g
Completely enclosed crystal for RFI/EMI immunity	

Physical

Dimensions	1.31"OD X 1.75"H 33 mm OD X 45 mm H
Weight	98 grams
Case Material	Stainless Steel/Epoxy
Face Material	Ceramic
Connector	BNC on integral cable
Connector Locations	Side

Electrical

Gain	26 dB
Preamp DC power	5-7 V
Grounding	Isolated from mounting surface
Noise level at input	<3 μV
Preamplifier dynamic range	>87 dB
Preamplifier impedance	50 ohm

Certifications

Ex ia IIC T6, -55°C ≤ Ta ≤ 70°C
Ex ia IIIC T85°C, -55°C ≤ Ta ≤ 70°C

ORDERING INFORMATION AND ACCESSORIES

ISPK15IUC	ISPK15IUC
Cable (specify length in 'XX' m)	XX
IS Zener Barrier/Preamplifier Interface	1281

Sensors include

NIST Calibration Certificate & Warranty

