



PK3I Sensor

Low Frequency Integral Preamplifier Resonant Acoustic Emission Sensor

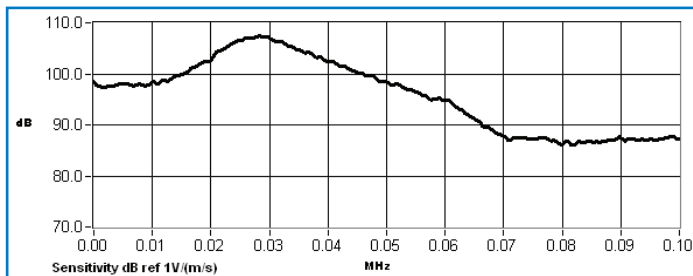
Description and Features

The PK3I sensor is a low frequency, resonant, acoustic emission sensor with an integral, ultra low noise, low power, filtered, 26dB preamplifier, which can drive up to 200 meters of cable. This new sensor represents an improvement in both noise and low power consumption performance, with noise level below 3 uV and power consumption of 25 mW. The PK3I features a strong stainless steel, integrated body structure. The sensor has a similar frequency response as the R3I sensor, except smaller.

The integrated Auto Sensor Test (AST*) capability allows these sensors to pulse as well as receive. This feature lets you verify the sensor coupling and performance at any time before, during or after the test.

Applications

The PK3I sensor has been designed to be used with the Pocket AE, a small handheld AE system, or with the Sensor Highway II, an outdoor rated, on-line monitoring system.



* 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.

Operating Specifications

Dynamic

Peak Sensitivity, Ref V/(m/s)	106 dB
Operating Frequency Range	15 to 40 kHz
Resonant Frequency, Ref V/(m/s).....	28 kHz
Directionality.....	+/- 1.5 dB

Environmental

Temperature Range	-35° to 80° C
Shock Limit	500 g
Completely shielded crystal for maximum RFI/EMI immunity	

Physical

Dimensions.....	0.812 D X 1.06H/20.6 X 27
Weight.....	52 grams
Case Material.....	Stainless steel
Face Material.....	Ceramic
Connector.....	SMA
Connector Locations	side

Electrical

Input Power Range (VDC)	4 to 7
Operating/Max Current (mA)	5/35
Internal Preamp Gain	26 dB
RMS Noise RTI (referred to input)	< 3 uV

Ordering Information and Accessories

PK3I	PK3I
Cable (specify cable length)	1234-SMA/BNC-X
Magnetic Hold-Down	MHPK15I
Amplifier Subsystem	AE2A, AE5A

Sensors include

NIST Calibration Certificate & Warranty



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