



# PK31 Sensor

Low Frequency

Resonant Acoustic Emission Sensor

## Operating Specifications

### Dynamic

Peak Sensitivity, Ref V/(m/s) .....	106 dB
Operating Frequency Range .....	20 to 40 KHz
Resonant Frequency, Ref V/(m/s).....	28KHz
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 Voltage Range (VDC) .....	4-7
Operating/Max Current (mA) .....	5/35
Internal Preamp Gain .....	26 dB
Noise RTI (referred to input $\mu$ V) .....	< 3

## Ordering Information and Accessories

PK31 .....	PK31
Cable (specify cable length in meters) .	1234-SMA/BNC-X
Magnetic Hold-Down .....	MHPK151
Amplifier Subsystem .....	AE2A, AE5A

### Sensors include

NIST Calibration Certificate & Warranty

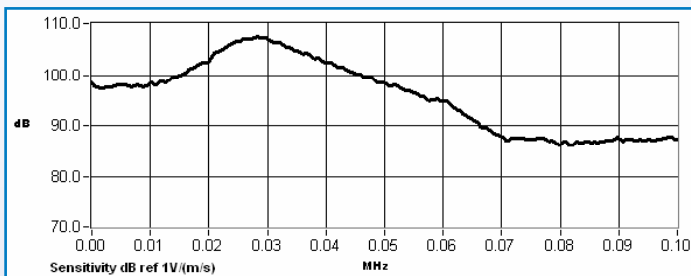
## Description and Features

The PK31 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 100ft 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 PK31 features a strong stainless steel, integrated body structure. The sensor has smaller size and the same frequency response as the R31 sensor.

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 PK31 sensor has been designed to be used with the Pocket AE and Sensor Highway II Systems.



\* 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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