

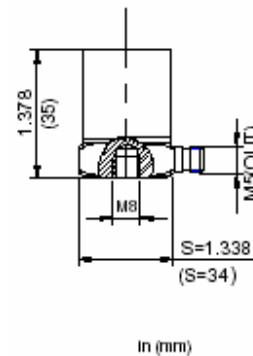
- ✚ Low-g Seismic Measurements**
- ✚ Very High Sensitivity at 1,000 mV/g**
- ✚ Low Impedance Output**
- ✚ 0.040 mg Resolution**
- ✚ Stud Mounted**



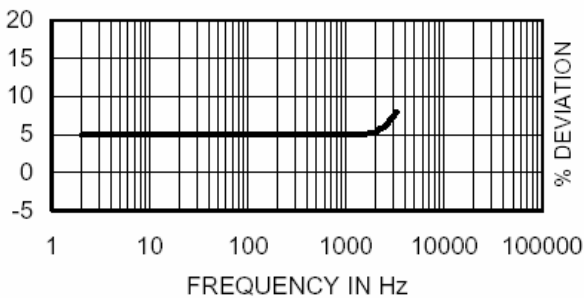
Description

The Sensors Model 189 is a stud mounted piezoelectric accelerometer designed for low-g vibration measurement on structures and objects. It offers a very high sensitivity of 1,000 mV/g with a resolution as small as 40 micro-g. The accelerometer transmits its low impedance voltage output through the same cable that supplies the constant current power.

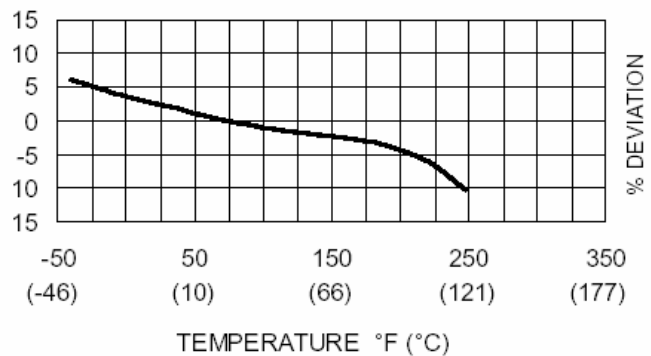
The Model 189 design is sealed against external contamination. Signal ground is connected to the outer case of the unit. When used with an isolated mounting stud, the accelerometer is electrically isolated from ground. The accelerometer features a M5 side connector that is used with coaxial cable for error-free operation.



Typical Amplitude Response



Typical Temperature Response



SPECIFICATIONS

The following performance specifications conform to ISA-RP-37.2 (1964) and are typical values, referenced at +75°F (+24°C) and 100 Hz, unless otherwise noted. Calibration data, traceable to National Institute of Standards and Technology (NIST), is supplied.

		UNITS	
DYNAMIC CHARACTERISTICS			
Range	g (m/s ²)		5 (49.0)
Voltage Sensitivity, typical	mV/g (mV/m/s ²)		1,000 (101.97)
Transverse Sensitivity	%		≤ 5
Frequency Response			See Typical Amplitude Response
Resonance Frequency	Hz		5,000
Amplitude Response			
± 5 %	Hz		0.5 – 500
± 1 dB	Hz		0.3 – 1,000
Temperature Response			See Typical Temperature Response
Amplitude Linearity	%		< 1
ELECTRICAL CHARACTERISTICS			
Output Polarity			Acceleration directed from base into the transducer defined as positive
Power Source Voltage (Constant Current)	VDC		+12 to +28
Supply Current	mA		2 to 10
Bias Voltage	V		7 ±1
Full Scale Output Voltage (peak)	Vp		≤ 5
Output Impedance	Ω		< 100
Noise	mg (mm/s ²)		< 0.04 (<0.39)
Grounding			Signal ground connected to case
ENVIRONMENTAL CHARACTERISTICS			
Temperature Range			-4°F to 248°F (-20°C to +120°C)
Humidity			Epoxy sealed
Shock Limit	g pk (m/s ² pk)		500 (4903.3)
Base Strain	equiv. g /μstrain		0.0002
Magnetic Field Sensitivity	equiv. g rms /gauss (°T)		1.5E-5 (1.5)
Thermal Transient Sensitivity	equiv. g /°C		0.008
PHYSICAL CHARACTERISTICS			
Weight	oz (grams)		3.9 (110)
Case Material			Stainless Steel
Mounting			M8
Piezoelectric Material			PZT-5
Structure			Annular Shear
Output Connector			M5 receptacle, side mounting

ACCESSORIES

Included:	Optional:
9002-120 Coaxial Cable M5/10-32, 10ft (3.3 m)	9003-120 Coaxial Cable M5/BNC, 10 ft (3.3 m)
9510 M8/ ¼-28 Mounting Stud	9001-120 Coaxial Cable M5/M5, 10 ft (3.3 m)
Calibration Sheet	

NOTES

1. Low end response of the transducer is a function of its electronics.