

PIEZOELECTRIC ACCELEROMETER

MODEL 1006A

- Vibration Measurement in Three Axes
- No External Power Required
- Frequency Response to 5 KHz
- Resonance Frequency at 30 KHz
- Light Weight (17 grams)
- Thru-Hole Center Mount



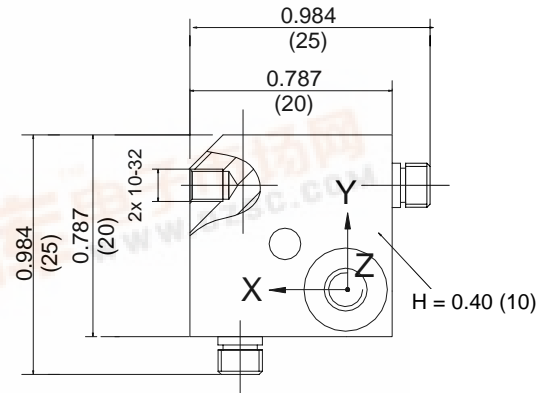
actual size

Description

The VIP Sensors Model 1006A is a small triaxial piezoelectric accelerometer designed for vibration measurement in three orthogonal axes. Its light weight (17 grams) minimizes mass loading. The accelerometer is a self-generating device that requires no external power source for operation. The transducer features three 10-32 receptacles for output connection and is typically screw mounted.

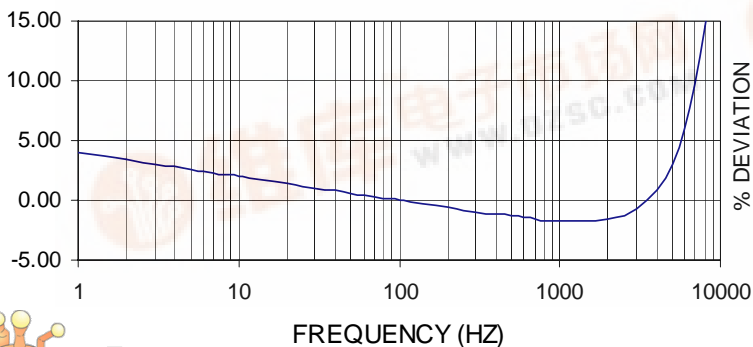
The Model 1006A utilizes the PZT-5 crystal material, exhibiting stable output sensitivity over the operating temperature range. Signal ground is connected to the case of the unit. Low-noise, flexible coaxial cables are used for error-free operation.

VIP Sensors Signal Conditioner Models 5002 and 5005 are recommended for use with this high impedance accelerometer.

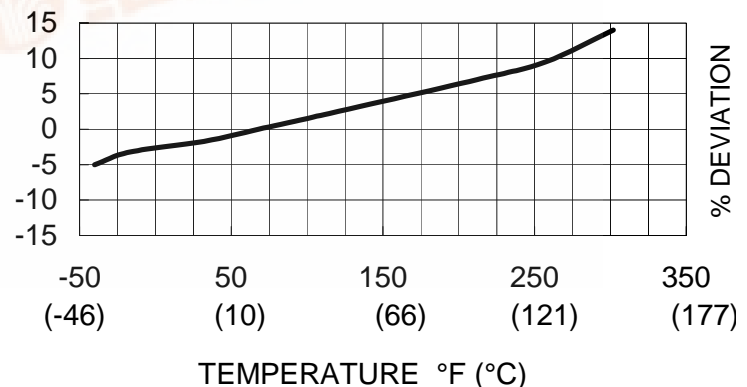


in (mm)

Typical Amplitude Response



Typical Temperature Response



PIEZOELECTRIC ACCELEROMETER

MODEL 1006A

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

Axial Sensitivity	pC/g	13 (10 minimum)
Transverse Sensitivity	%	≤ 5
Frequency Response		See Typical Amplitude Response
Resonance Frequency	Hz	30,000
Amplitude Response [1]		
± 5 %	Hz	1 – 5,000
± 1 dB	Hz	0.5 – 6,000
Temperature Response		See Typical Temperature Response
Amplitude Linearity	%	< 1

ELECTRICAL CHARACTERISTICS

Output Polarity		Acceleration directed from the base into the transducer is defined as positive
Resistance	GΩ	>1
Capacitance	pF	1,500
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	2,000
Base Strain	equiv. g pk/μ strain	0.004
Magnetic Field Sensitivity	equiv. g rms/gauss (T)	5E-6 (0.5)
Thermal Transient Sensitivity	equiv. g pk/°F (°C)	0.0144 (0.008)

PHYSICAL CHARACTERISTICS

Weight	oz (grams)	0.6 (17)
Case Material		Stainless Steel
Mounting		Center mount with M5 screw, two side mounts with 10-32, torque 2 N-m (18 lbf-in)
Piezoelectric Material		PZT-5
Structure		Flat Plate Shear
Output Connector		10-32 receptacles for X, Y and Z

ACCESSORIES

Included:

9006-120 Cable, Low Noise 10-32/10-32, 3.3 m, qty 3
 9509-1 M5 Mounting Screw
 Calibration Certificate

Optional:

9604 Cable Adapters 10-32/10-32 (extend cable length)

NOTES

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