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**

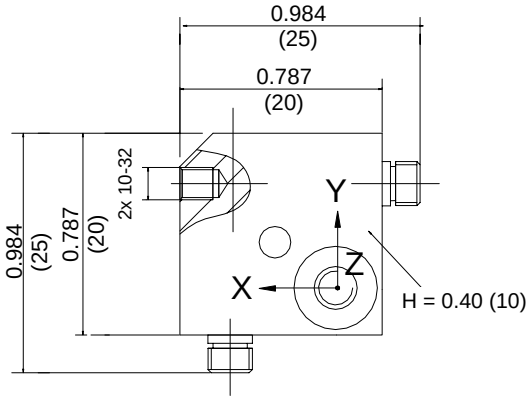
actual size

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.

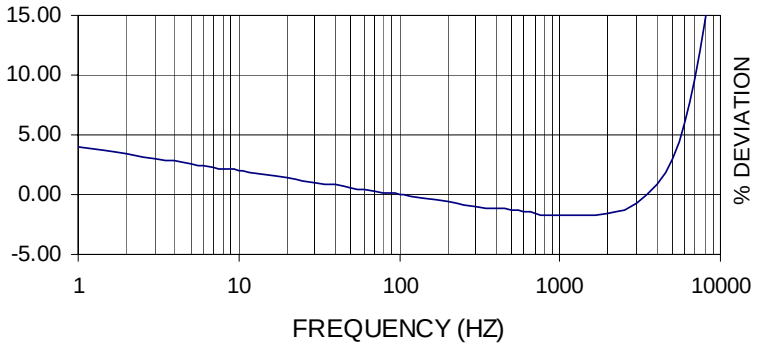
The Model 1006A utilizes the PZT-5 crystal material, exhibiting stable output sensitivity over the operating temperature range. Signal ground is connected to the case of the unit. Low-noise, flexible coaxial cables are used for error-free operation.

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

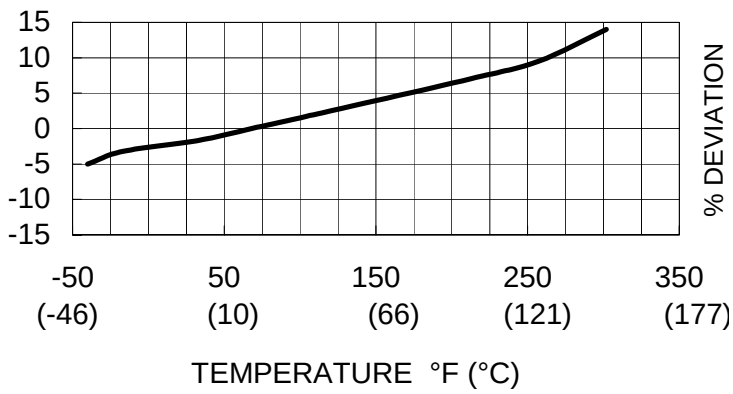


in (mm)

Typical Amplitude Response



Typical Temperature Response



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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.