

PIEZOELECTRIC ACCELEROMETER

MODEL 1022A

- Thru-Hole Bolt or Adhesive Mounting
- 360° Cable Orientation
- Miniature Design
- Lightweight - 9 grams
- Frequency Response to 8 kHz

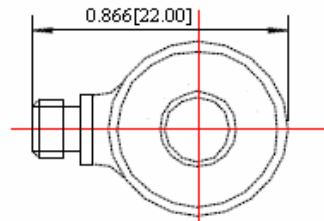
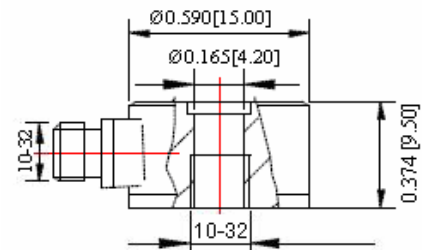


Description

The VIP Sensors Model 1022A is a miniature piezoelectric accelerometer designed for shock and vibration measurements on small structures and objects. Its mass of only 9 grams minimizes or eliminates any mass loading effects on the object being tested. The accelerometer is a high-impedance, self-generating device that requires no external power source for operation.

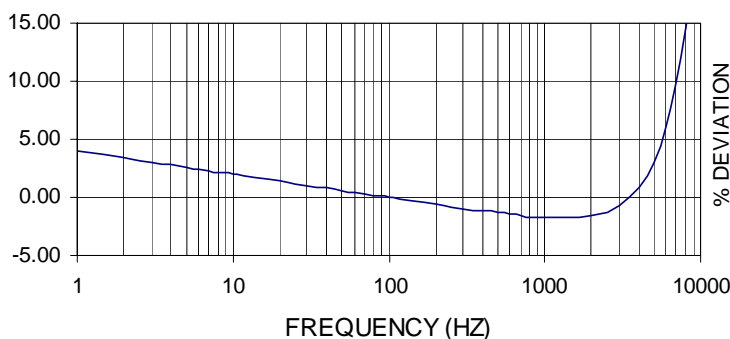
The Model 1022A incorporates a thru-hole mounting design that allows for cable orientation in any direction. The unit is sealed against external contamination. Signal ground is connected to the outer case of the unit. The accelerometer features a 10-32 connector that is used with low-noise coaxial cable for error-free operation.

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

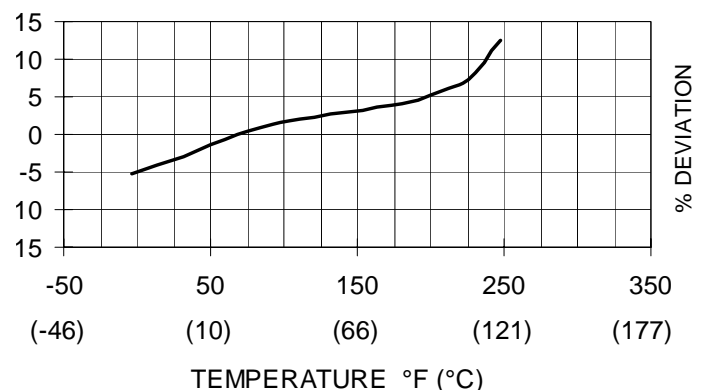


STANDARD TOLERANCE
INCH [Millimeter]
XX=+/- .02 (X=+/- .5)
XXX=+/- .010 (X=+/- .25)

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	15
Transverse Sensitivity	%	≤ 5
Frequency Response		See Typical Amplitude Response
Resonance Frequency	Hz	35,000
Amplitude Response [1]		
± 5 %	Hz	1 - 6,000
± 1 dB	Hz	0.5 - 8,000
Temperature Response		See Typical Temperature Response
Amplitude Linearity	%	< 1
ELECTRICAL CHARACTERISTICS		
Polarity		Acceleration directed from base into the transducer defined as positive
Isolation Resistance	GΩ	>1
Capacitance	pF	1,000
Grounding		Signal ground connected to case
ENVIRONMENTAL CHARACTERISTICS		
Temperature Range	°F (°C)	-40 to +302 (-40 to +150)
Humidity		Epoxy sealed
Shock Limit	g pk	2000
Base Strain	equiv. g pk/μ strain	0.2
Magnetic Field Sensitivity	equiv. g rms/gauss (1/T)	0.5E-6 (0.5)
Thermal Transient Sensitivity	equiv. g pk/°F (°C)	0.09 (0.05)
PHYSICAL CHARACTERISTICS		
Weight	oz (grams)	0.32 (9)
Case Material		Stainless Steel
Mounting		Mounting screw, torque 2 N-m (18 lbf-in)
Piezoelectric Material		PZT-5
Structure		Annular Shear
Output Connector		10-32 receptacle, side mounting

ACCESSORIES

Included:

9006-120 Cable, Low Noise 10-32/10-32, 10 ft (3.3 m)

Mounting Screw

Calibration Certificate

Optional:

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

NOTES:

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