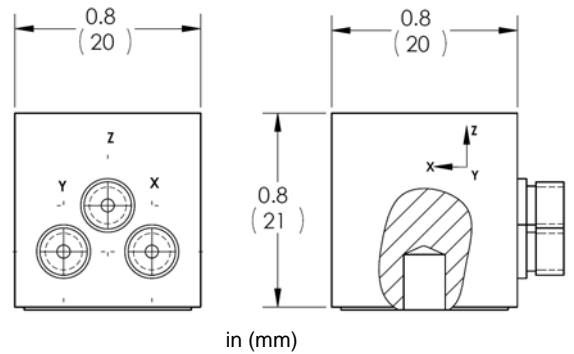


# TRIAxIAL INTEGRAL ELECTRONICS (IEPE) PIEZOELECTRIC ACCELEROMETER

## MODEL 2100A

- Vibration Measurement in Three Axes
- Voltage Output, Sensitivity = 10 mV/g
- Light Weight (20 grams)
- Integral Memory Chip with TEDS  
(Transducer Electronic Data Sheet) per  
IEEE 1451.4 Standard

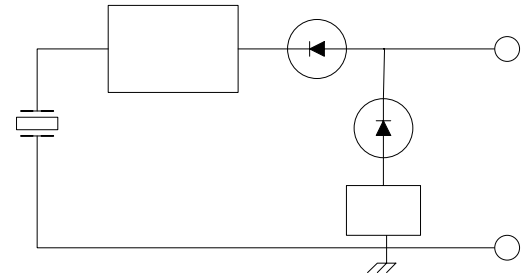


### Description

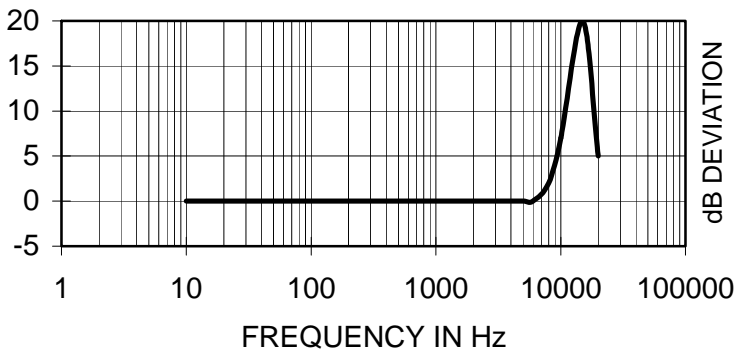
The VIP Sensors Model 2100A series is a 3-axis, stud mounted piezoelectric accelerometer designed for general vibration measurement on structures and objects. The accelerometer transmits its low impedance voltage output through the same cable that supplies the constant current power to each channel. The model number suffix denotes output sensitivity; for example, the Model 2100A11 has an output sensitivity of 10 mV/g.

The accelerometer features three 10-32 connectors that are mounted on the side of the accelerometer and are used with coaxial cables for error-free operation. The Model 2100A also incorporates an integrated circuit (IC) memory chip for storing Transducer Electronic Data Sheet (TEDS) information per the IEEE 1451.4 standard.

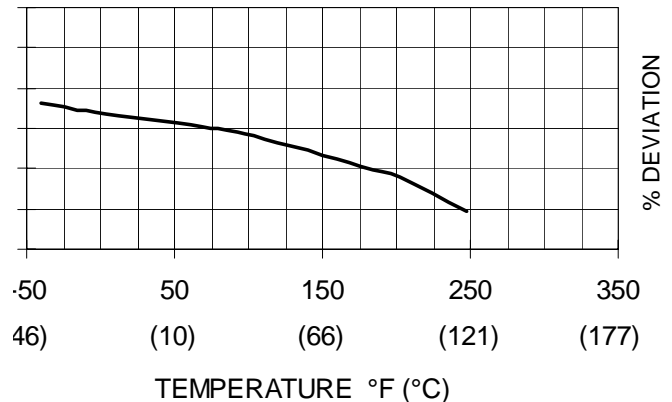
VIP Sensors Signal Conditioner Models 5005, 5100 and 5102 are recommended for use with this low impedance accelerometer.



### Typical Amplitude Response



### Typical Temperature Response



# TRIAxIAL INTEGRAL ELECTRONICS (IEPE) PIEZOELECTRIC ACCELEROMETER

## MODEL 2100A

### 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	MODEL 2100A11
<b>DYNAMIC CHARACTERISTICS</b>		
Range	g (m/s <sup>2</sup> )	500 (4903.3)
Voltage Sensitivity, typical	mV/g (mV/m/s <sup>2</sup> )	10 (1.02)
Transverse Sensitivity	%	≤ 5
Frequency Response		See Typical Amplitude Response
Resonance Frequency	Hz	15,000
Amplitude Response		
± 5 %	Hz	2 – 3,000
± 1 dB	Hz	0.5 – 3,500
Temperature Response		See Typical Temperature Response
Amplitude Linearity	%	< 1
<b>ELECTRICAL CHARACTERISTICS</b>		
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 <sup>2</sup> )	< 2 (< 19.6)
Grounding		Signal ground connected to case
<b>ENVIRONMENTAL CHARACTERISTICS</b>		
Temperature Range		-4°F to 248°F (-20°C to +120°C)
Humidity		Epoxy sealed
Shock Limit	g pk (m/s <sup>2</sup> pk)	2,000 (19,613)
Base Strain	equiv. g /μstrain	0.0002
Magnetic Field Sensitivity	equiv. g rms /gauss (T)	2E-4 (2)
Thermal Transient Sensitivity	equiv. g /°C	0.008
<b>PHYSICAL CHARACTERISTICS</b>		
Weight	oz (grams)	0.71 (20)
Case Material		Aluminum
Mounting		10-32, torque 2 N-m (18 lbf-in)
Piezoelectric Material		PZT-5
Structure		Flat Plate Shear
Output Connector		10-32 receptacles x3, side mounting

### ACCESSORIES

#### Included:

9005L10 Cables x3, 10-32/BNC, 10ft (3.3 m)  
9504-8 Mounting Stud 10-32/10-32  
Calibration Sheet

#### Optional:

9505-8 Mounting Stud, isolated 10-32/10-32

### NOTES

- Short duration shock pulses, such as those generated by metal-to-metal impacts, may excite transducer resonance and cause linearity errors.
- Reading the TEDS memory chip requires either a TEDS-capable signal conditioner, such as the VIP Sensors Model 5005, or TEDS reader Model 5701.