

PIEZOELECTRIC ACCELEROMETER

MODEL 1300

- High Temperature Applications (to 250 °C)
- Sensitivity 50 pC/g
- Balanced Differential Output
- Standard 3-Point Mounting
- Isolated Ground



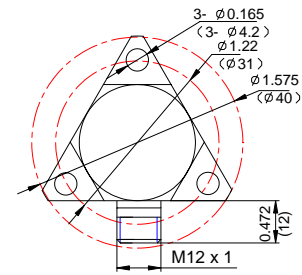
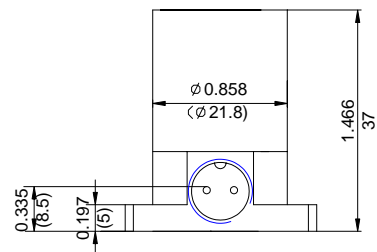
actual size

Description

The VIP Sensors Model 1300 is a piezoelectric accelerometer designed for rugged, high-temperature applications such as gas turbine engine testing. The sensor design is a welded stainless steel construction that is hermetically sealed against external contamination. The accelerometer is a self-generating device that requires no external power source for operation.

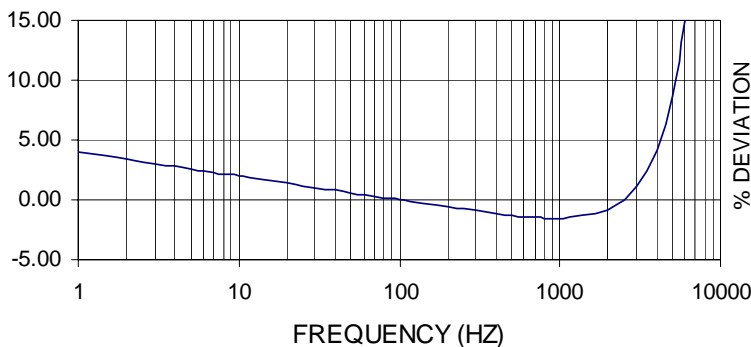
The Model 1300 offers a frequency response range to 3 KHz and a resonance frequency at 15 KHz. The standard 3-point mounting configuration is typical of accelerometers used for testing gas turbine engines. Signal ground is isolated from the outer case of the unit. The accelerometer features a two-pin 7/16-27 UNS connector that is used with low-noise, twisted-pair cable for error-free operation.

Signal conditioners capable of accepting high impedance, balanced differential output signals should be used with this accelerometer.

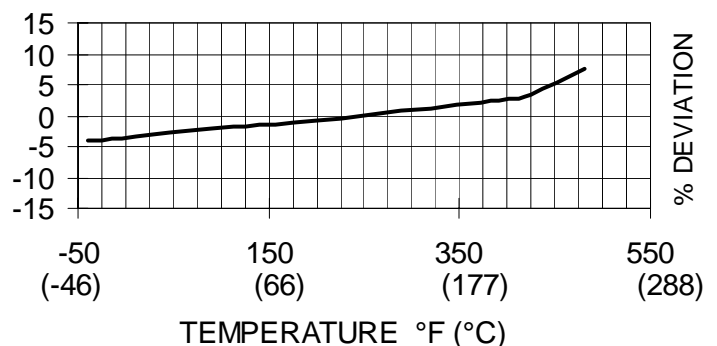


in (mm)

Typical Amplitude Response



Typical Temperature Response



PIEZOELECTRIC ACCELEROMETER

MODEL 1300

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	50 (45 minimum)
Transverse Sensitivity	%	≤ 5
Frequency Response		See Typical Amplitude Response
Resonance Frequency	Hz	15,000
Amplitude Response [1]		
± 5 %	Hz	10 – 2,500
± 1 dB	Hz	5 – 3,000
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	3,000
Grounding		Signal return isolated from case
Isolation Resistance	GΩ	>0.1
ENVIRONMENTAL CHARACTERISTICS		
Temperature Range		-40°F to 482°F (-40°C to +250°C)
Humidity		Hermetically sealed, welded construction
Shock Limit	g pk	1,000
Base Strain	equiv. g pk/μ strain	0.003
Magnetic Field Sensitivity	equiv. g rms/gauss (T)	1E-5 (1)
Thermal Transient Sensitivity	equiv. g pk/°F (°C)	0.1 (0.18)
PHYSICAL CHARACTERISTICS		
Weight	oz (grams)	3.5 (100)
Case Material		Stainless Steel
Mounting		M5 bolt (x3), torque 2 N-m (18 lbf-in)
Piezoelectric Material		BST
Structure		Center Compression
Output Connector		2-pin 7/16-27 UNS connector
ACCESSORIES		
Included:		Optional:
Calibration Certificate		9020-120 Low Noise Cable, 10 ft (3.3 m), Two-pin 7/16-27 UNS receptacle
		9509-1 M5 Mounting Bolts

NOTES

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