



4-123

Vibration Transducer



Applications

- Aircraft Engines
- Industrial Turbines
- Power Generators
- Test Cells

Features

- Self-generated, high level, low impedance output
- Operates to +500°F (+260°C)
- Weighs only 4.25 ounces

Velocity Sensors

Description

CEC Vibration Products 4-123-0001 vibration transducers are particularly suited to turbine applications. They operate to +500°F, have low sensitivity to transverse accelerations, and can be mounted in any plane. The low impedance, high level output requires no special amplifiers, simplifying your measurement system. Precision jewel bearings provide nearly friction-free movement for long life reliability.

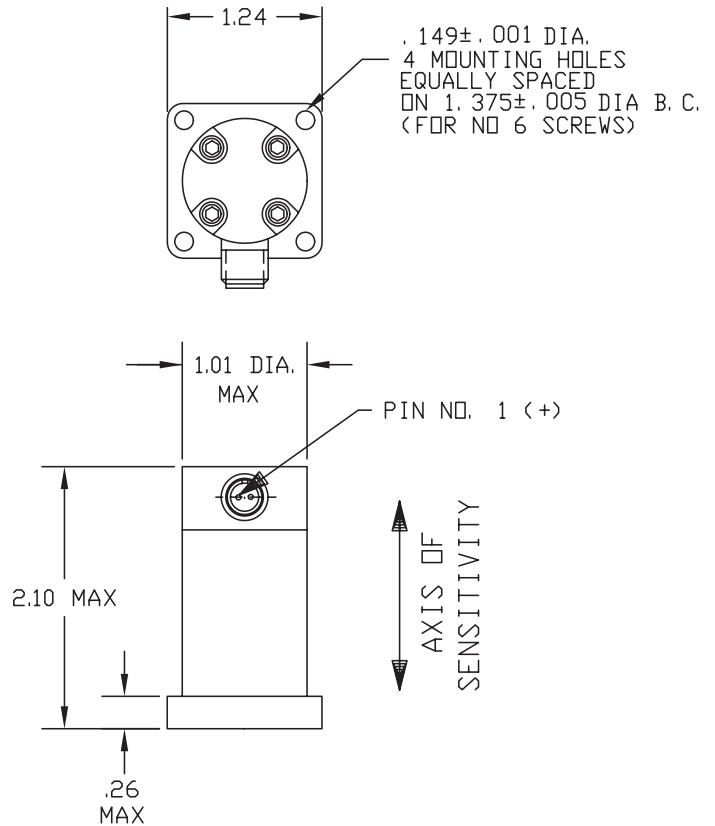
The 4-123-0001 uses a seismic mass that moves on a special bearing mechanism. The interaction between the stationary coil and the high output magnet produces the AC mV output signal when the case is mounted to a structure in motion. The output signal is proportional to velocity and is specified as mV / inches per second. This air-damped system operates above its natural frequency and is protected from contamination by a sealed case.



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Performance Specifications

Sensitivity:	135 ±2 mV/in/sec at 100 Hz, +77°F(+25°C) into a 10,000 Ω resistive load impedance
Dynamic Range	
Frequency:	45 Hz to 2000 Hz
Amplitude:	0.15 inch peak-to-peak max
Acceleration:	0.5 g to 50 g
Frequency Response:	±8% of the mean sensitivity 45 to 2000 Hz throughout the operating temperature range
Transverse Response:	Less than 2%
Linearity:	±3% within dynamic range
Temperature Range:	-40°F to +500°F (-40°C to +260°C)
Thermal Coefficient of Sensitivity:	±0.03%/°F
Sensitivity Shift with Position:	±6% of the mean sensitivity between vertical and horizontal
Damped Resonant Frequency:	18 Hz
Excitation:	Self-generating
Coil Resistance:	435 ohms ±15% at 77°F
Insulation Resistance:	1 meg ohm, minimum
Polarity:	Pin 1 is positive when the case is moved upward
Maximum Static Acceleration:	6 g's in sensitive axis produces full travel of moving mass
Shock:	50 g's maximum in any direction
Weight:	4.5 oz nominal (121 grams)



Optional Accessories

1. High temperature cable and connector assembly P/N 169500-XXXX (length is identified in inches; e.g.: 60-inch cable is P/N 169500-0060)
2. Connector P/N 173960
3. Contact CEC for additional cable assembly options.

Ordering Information

When ordering, specify 4-123-0001. Mating connectors and cable assemblies are not furnished and must be ordered separately.

In keeping with CEC's policy of continuing product improvement, specifications may be changed without notice.

Note:

1. This specification applies to testing performed with unidirectional sinusoidal measurands. Dither, which improves the acceleration threshold, is present in most applications.

