



4-125

Vibration Transducer



Applications

- Aircraft Engines
- Industrial Turbines
- Test Cells

Features

- Self-generated, high level, low impedance output
- Operates to +700°F (+371°C)
- Field Repairable

Velocity Sensors

Description

CEC designed the 4-125 Vibration Transducer for turbine applications. You can use them in turbine hot sections, such as the turbine case, where high temperatures can cause problems with other transducers. The low impedance, high level output requires no special amplifiers, simplifying your measurement system. They have low sensitivity to transverse accelerations, and you can mount them in any plane.

CEC's 4-125 Vibration Transducers use a seismic magnet that moves on gold bearings. A coil is attached to the case, and movement

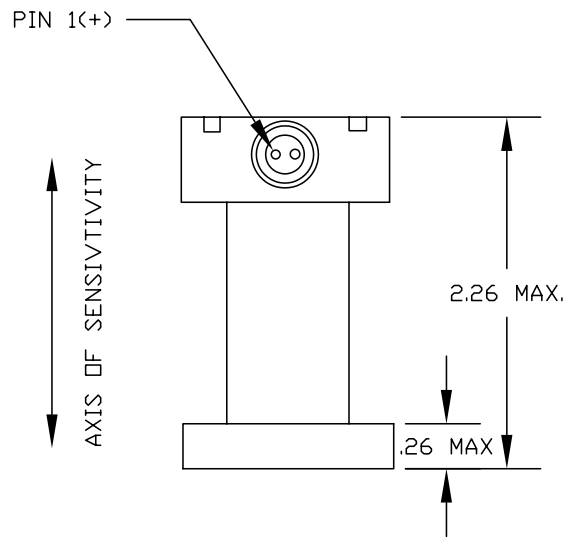
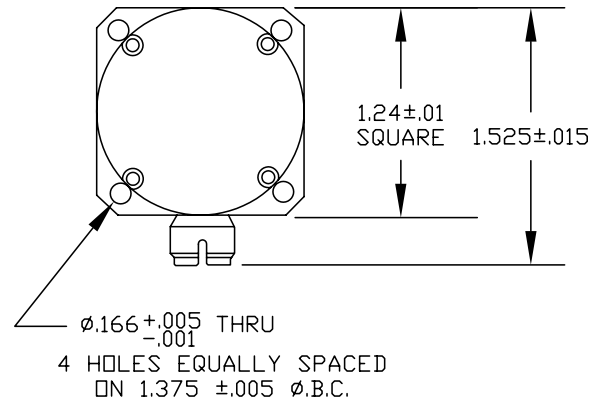
between the magnet and coil produces the output signal when the case vibrates. This air-damped system operates above its natural frequency so the output is proportional to velocity. Rugged construction and design simplicity insure high reliability and long service life.



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Performance Specifications

Sensitivity:	105 ±3 mV/in/sec at 100Hz, 75°F (+24°C) into a 10,000Ω resistive load impedance
Dynamic Range	
Frequency:	45 Hz to 1500 Hz
Amplitude:	0.1 inch peak-to-peak, maximum
Acceleration:	1 g to 50 g
Frequency Response:	±6% of the mean sensitivity
Linearity:	±1% of output at 20 g's within dynamic range (vertical at 100 Hz)
Transverse Response:	2% of maximum
Temperature Range:	-65°F to +700°F (-54°C to +371°C)
Sensitivity Shift with Position:	±10% maximum
Thermal Coefficient of Sensitivity:	-0.02%/°F
Damped Resonant Frequency:	15 Hz nominal
Excitation:	Self-generating
Coil Resistance:	465Ω ±24% max. at 75°F
Insulation Resistance:	0.1 megaohm, minimum
Polarity:	Pin 1 is positive when the case is moved upward
Shock:	50 g's maximum in any direction
Maximum Static Acceleration:	2.2 g's in the sensitive axis produces full travel of moving mass
Weight:	8 oz. nominal



Ordering Information

When ordering, specify type 4-125-0001. 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.

