CEC Vibration Products Inc.

4-128

Vibration Transducer

Applications

- Aircraft Engines
- Industrial Turbines
- Test Cells

Features

- Self-generated, high level, low impedence output
- Operates to +700°F
- Weighs only 2 ounces

Velocity Sensors

Description

CEC designed the 4-128 Vibration Transducer for turbine applications. You can use them in turbine hot sections where high temperatures can cause problems with other transducers. The system is simplified due to the low impedence, high level output that can drive AC meters, recorders, and control electronics without using special amplifiers. They have low sensitivity to transverse accelerations, and you can mount them in any plane.

These instruments are especially valuable where space is limited, and where heavier transducers would invalidate test results. They adapt easily to your installation because models are available in a variety of mounting configurations, connector orientations and sensitivities.

Rugged construction and design simplicity insure high reliability and long service life. The 4-128 is factory repairable.

CEC's 4-128 Vibration Transducers employ a seismic magnet that moves on precision bearings. A coil is attached to the case, and movement between the magnet and coil produces the ouput signal when the case vibrates. This air-damped system operates above its natural frequency and provides output proportional to velocity.

RoHS COMPLIANT

ISO 9001:2000 AS9100 Certified

4-128 Vibration Transducer

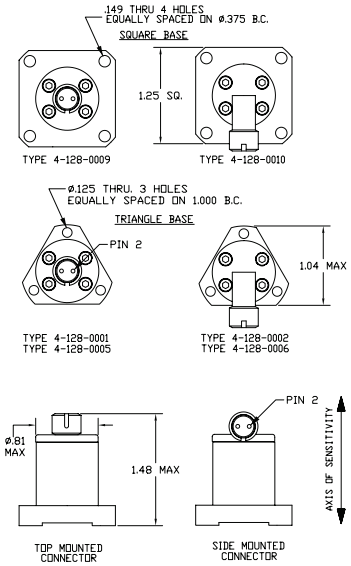
Performance Specifications

Sensitivity:	(refer to Table 1) mV/ips at 100 Hz and +77°F at 2 in/sec (ips) into a 10,000 Ω load.
Dynamic Range	
Frequency:	45 Hz to 1500 Hz
Amplitude:	0.10 inch peak-to-peak, maximum
Acceleration:	0.5 g to 50 g (vertical position)
Frequency Response:	±6% of the mean sensitivity, 45 to 1500 Hz throughout the operating temperature range
Linearity:	±6% within dynamic range
Transverse Response:	Less than 2%
Temperature Range:	-65°F to +700°F (-53°C to +371°C)
Thermal Coefficient of Sensitivity:	-0.02%/°F
Damped Resonant Frequency:	15 Hz nominal
Excitation:	Self-generating
Insulation Resistance:	0.1 megaohm, minimum
Polarity:	Pin 2 is positive when the case is moved upward
Shock:	50 g's maximum in any direction
Maximum Static Acceleration:	3 g's in the sensitive axis produces full travel of moving mass
Weight:	2.0 oz nominal

Approvals

North America
CSA C/US Class I, Division I, Groups A, B, C and D
Class I, Division 2, Groups A, B, C and D

European
ATEX EEx ia IIB or IIC T6 - T1
EEx nA II T6 - T1 X



Ordering Information

When ordering, use table below. 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.

Optional Information

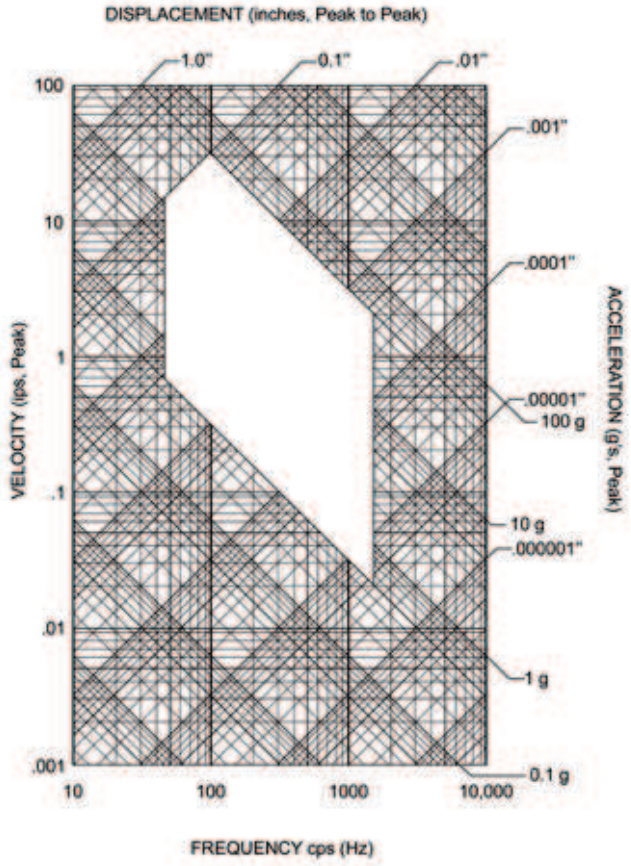
1. Cable and connector assembly P/N 169500-XXXX (length is identified in inches; e.g.: 60-inch cable is P/N 169500-0060)
2. Connector P/N 173960

TABLE 1

Type Number	Sensitivity
4-128-0001	60 ±2 mV/in/sec
4-128-0002	60 ±2 mV/in/sec
4-128-0005	105 ±3 mV/in/sec
4-128-0006	105 ±3 mV/in/sec
4-128-0009	105 ±3 mV/in/sec
4-128-0010	105 ±3 mV/in/sec

Note:

1. The four cap screws must be safety wired together and to the connector to prevent inadvertent disassembly. Safety wires are provided in the cap screws.



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