

4-131 Vibration Transducer

Applications

- Vibration Analysis and Monitoring
- Gas Turbine Test Cells
- Industrial Turbines
- Power Generation

Features

- Self Generated, High Level, Low Impedance Output simplifies your system.
- Friction Free Design for Long Life
- Operates to 371°C (700°F) (482°C/900°F versions available)



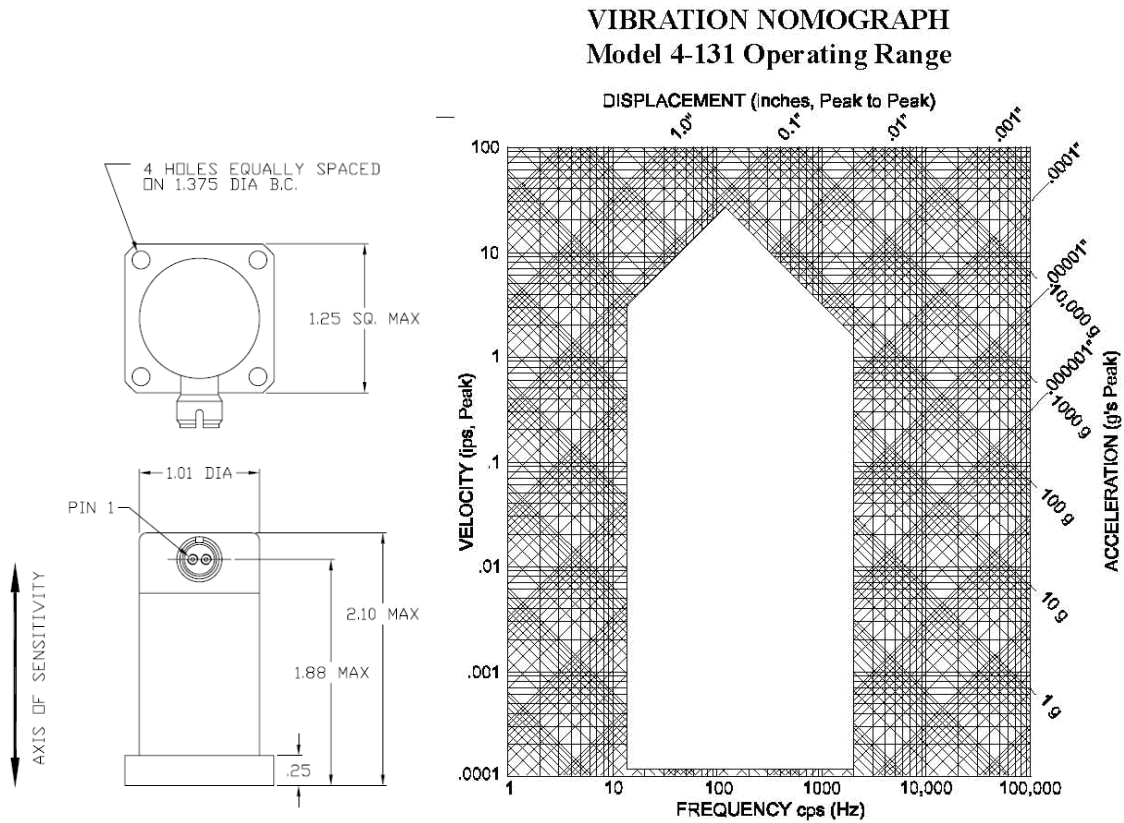
Description

The friction-free moving elements in CEC's 4-131 Vibration Transducers assure long life and reliability. Designed for industrial applications on fixed turbines, you can use this instrument in turbine hot sections where high temperatures cause problems with other transducers. The system is simplified due to the low impedance, high level output that can drive AC meters, recorders, and control electronics without using special amplifiers.

The frictionless design also allows measurement of extremely low vibration levels, critical when monitoring precision balanced turbine systems. The low level is limited only by system noise. These transducers use a seismic mass magnet suspended by springs and a coil attached to the case. The output signal results from relative movement between the magnet and coil when the case vibrates. The air damped system operates above its natural frequency, so the output signal is proportional to velocity. The sealed case prevents damage to the instrument when used in difficult environments.

4-131 Specifications

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| Sensitivity: | 135 mV/in/sec $\pm 3\%$ at 80 Hz, and 77°F (25°C) $\pm 4^\circ\text{F}$ at 0.5 ips drive |
| Dynamic Range: | |
| Frequency: | 15 Hz to 2000 Hz |
| Amplitude: | 0.07 inch peak-to-peak, maximum |
| Acceleration: | 0.02 g to 50 g |
| Frequency Response: | $\pm 15\%$ over the frequency range, referenced to 80 Hz |
| Linearity: | Included in frequency response |
| Temperature Range: | -54°F to +371°C; (-54°C to +482°C available on special order) |
| Thermal Coefficient of Sensitivity: | $\pm 0.02\%/^\circ\text{F}$ from reference 77°F |
| Sensitivity Shift with Position: | 10% maximum |
| Damped Resonant Frequency: | Less than 15 Hz nominal |
| Excitation: | Self-generating |
| Insulation Resistance: | 100 kOhms minimum |
| Polarity: | Pin 1 is positive when the case is moved upward |
| Weight: | 5.8 oz. nominal |
| Shock: | 50 g's maximum in any direction |
| Calibration: | Calibration record furnished |
| Cross Axis: | Must not exceed 2 g's maximum in continuous operation. |



Optional Accessories

1. Cable and connector assembly; P/N 169500-XXXX (length is identified in inches; e.g. a 36-inch cable is P/N 169500-0036)
2. Connector; P/N 173960

Ordering Information:

When ordering, specify 4-131-0001. 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.