



Accelerometers for Health & Usage Monitoring Systems (HUMS)

Highlights

- Case isolated to reduce EMI & ground loop interference
- Shear modes sensing geometry
- Ceramic & quartz sensing elements
- ICP® & charge output types



Health and Usage Monitoring Systems (HUMS) are gaining wide acceptance as an effective predictive maintenance strategy in helicopters and some fixed wing aircraft. Due to the large number of critical flight safety systems on aircraft, particularly rotating systems on helicopters, vibration monitoring technology is effective in detecting and thus preventing catastrophic mechanical failures.

Accelerometers used in HUMS typically have specialized requirements for performance, reliability, and packaging, depending on the particular aircraft and standards involved. PCB's experience in flight qualified sensors, monitoring applications, and OEM relationships, coupled with our extensive in-house capabilities to design and manufacture specialized sensors, makes us uniquely qualified to support this industry.

These units showcase ICP® and charge output operation, ceramic and quartz sensing elements, and a variety of hermetically sealed physical configurations. While this sensor family represents a sampling of solutions used for this critical application, advanced design capabilities permit PCB to customize solutions specific to your requirements. Please inquire to learn which solution is right for your application.

As with all PCB® instrumentation, this equipment is complemented with toll-free applications assistance, 24-hour customer service, and is backed by a no-risk policy that guarantees satisfaction or your money refunded.

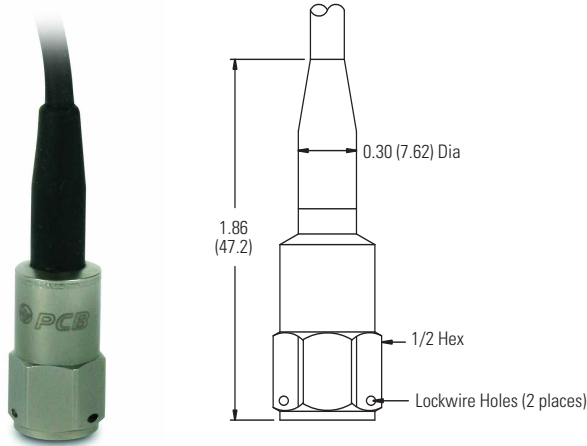


Sensors for Flight Monitoring and Predictive Maintenance



Model 337A30 ICP® Accelerometer

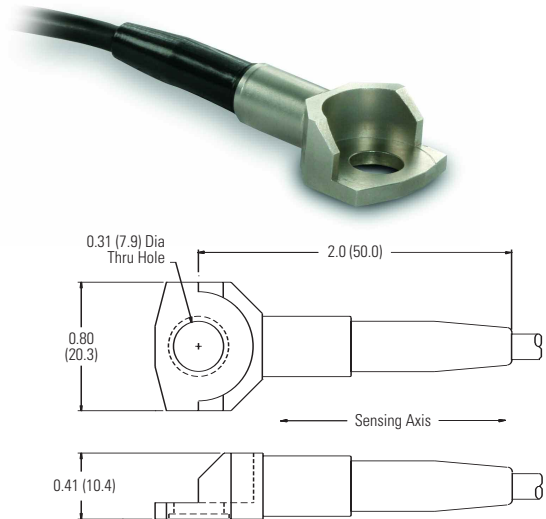
This unit features a robust, top exit integral cable for resistance to contamination and a small footprint for ease of installation.



- 10 mV/g (1.02 mV/(m/s²) sensitivity
- ± 500 g pk measurement range
- 2 to 15k Hz frequency range (± 1 dB)
- -30 to +250 °F (-35 to +121 °C) temperature range
- Hermetically sealed, stainless steel housing
- Electrical case isolation

Model 337A31 ICP® Accelerometer

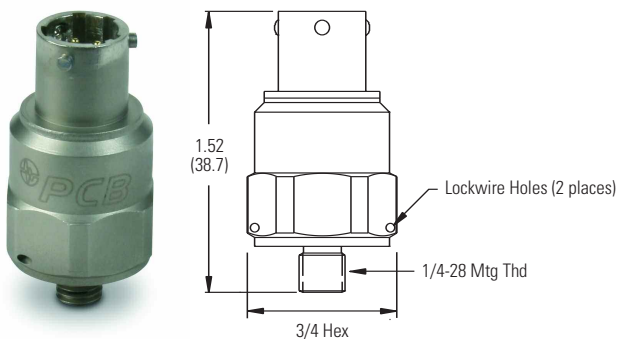
This unit features a robust, side exit integral cable for resistance to contamination and a through-hole mount for ease of installation.



- 10 mV/g (1.02 mV/(m/s²) sensitivity
- ± 500 g pk measurement range
- 1 to 1000 Hz frequency range (± 5%)
- -60 to +250 °F (-53 to +121 °C) temperature range
- Hermetically sealed, stainless steel housing
- Electrical case isolation

Model 337A32 ICP® Accelerometer

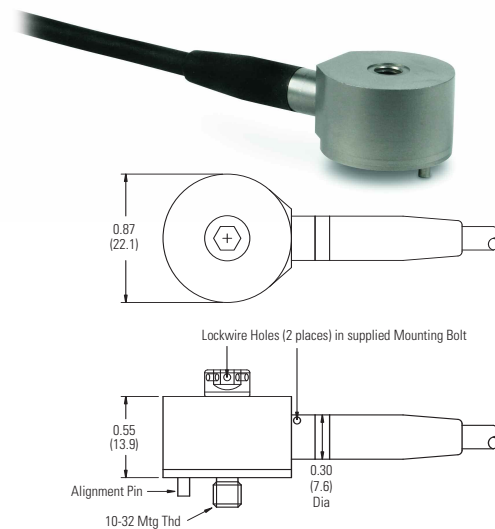
This unit features a robust, top exit 3-pin bayonet connector, integral mounting stud, and a small footprint for ease of installation.



- 10 mV/g (1.02 mV/(m/s²) sensitivity
- ± 500 g pk measurement range
- 2 to 2000 Hz frequency range (± 5%)
- -60 to +250 °F (-53 to +121 °C) temperature range
- Hermetically sealed, stainless steel housing
- Electrical case isolation

Model 337A33 ICP® Accelerometer

This unit features a robust, side exit integral cable for resistance to contamination and a through-hole mount for ease of installation.

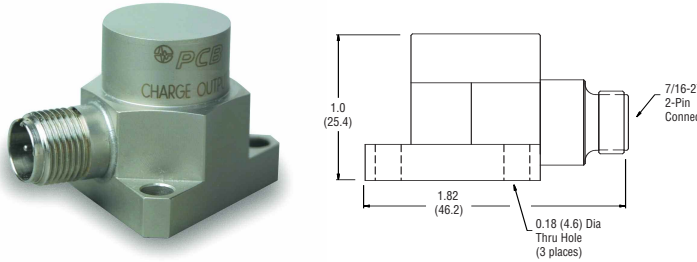


- 10 mV/g (1.02 mV/(m/s²) sensitivity
- ± 500 g pk measurement range
- 3 to 15k Hz frequency range (± 5%)
- -65 to +250 °F (-54 to +121 °C) temperature range
- Hermetically sealed, titanium housing
- Electrical case isolation



Model 357B71 Charge Accelerometer

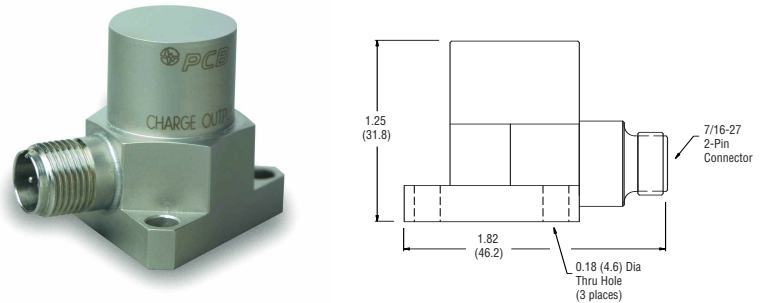
This high temperature unit features a robust 3 point mount and differential charge output signal to eliminate common mode noise.



- 10 pC/g (1.02 pC/(m/s²) sensitivity
- ± 500 g pk measurement range
- 2000 Hz frequency range (± 5%)
- -65 to +900 °F (-54 to +482 °C) temperature range
- Hermetically sealed, Inconel® housing
- Electrical case isolation

Model 357B72 Charge Accelerometer

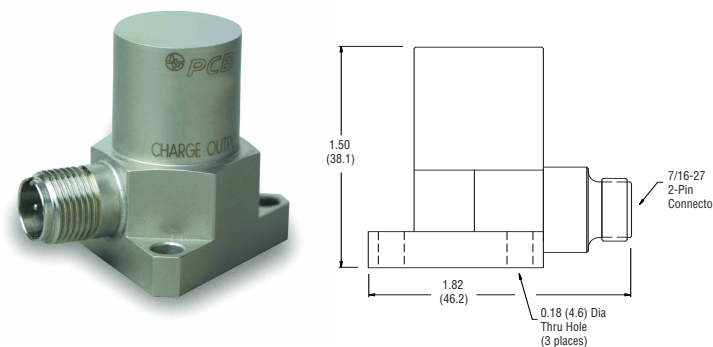
This high temperature unit features a robust 3 point mount and differential charge output signal to eliminate common mode noise.



- 50 pC/g (5.1 mV/(m/s²) sensitivity
- ± 500 g pk measurement range
- 2000 Hz frequency range (± 5%)
- -65 to +900 °F (-54 to +482 °C) temperature range
- Hermetically sealed, Inconel® housing
- Electrical case isolation

Model 357B73 Charge Accelerometer

This high temperature unit features a robust 3 point mount and differential charge output signal to eliminate common mode noise.



- 100 pC/g (10.2 pC/(m/s²) sensitivity
- ± 500 g pk measurement range
- 2000 Hz frequency range (± 5%)
- -65 to +900 °F (-54 to +482 °C) temperature range
- Hermetically sealed, Inconel® housing
- Electrical case isolation

Series 495B10 Differential Charge Converter

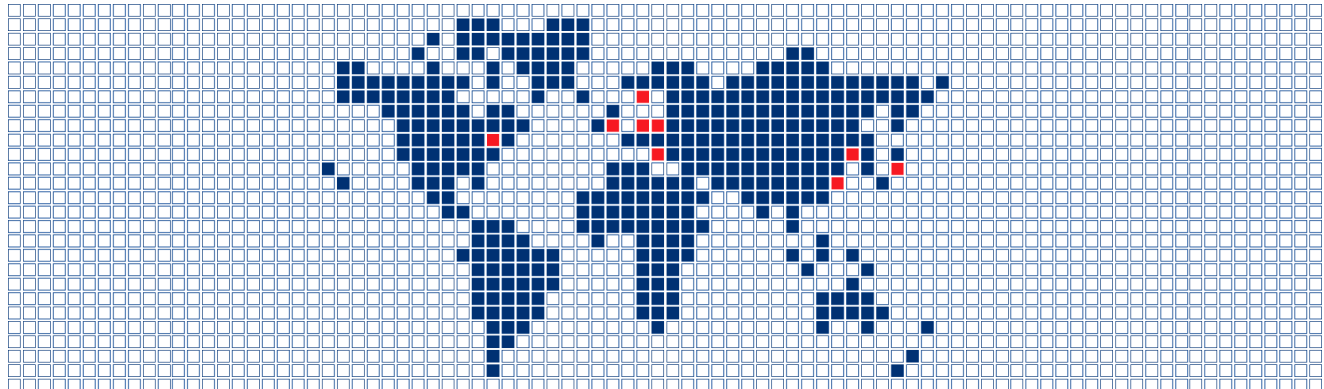
This unit operates from DC power and conditions the output signals from high temperature, differential, charge output accelerometers for transmission to readout and recording instruments.



- 2 mV/pC charge conversion
- ± 1250 pC input range
- ± 2.5 V output
- 10 to 30 VDC powered
- Aluminum enclosure
- 5.5 x 1.73 x 1.21 in. (139.7 x 43.8 x 30.8 mm) (l x w x h)



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