



Accelerometers for Health & Usage Monitoring Systems (HUMS)

Highlights

- Qualified to RTCA/DO-160 & MIL-STD-810
- Case isolated to reduce EMI & ground loop interference
- High temperature environments
- ICP® & charge output operations
- Numerous form factors
- Accelerometers tailored for mechanical diagnostics and rotor track & balance

Applications

- Mechanical Diagnostics
- Rotor Track & Balance (RTB)
- Engine Vibration Monitoring (EVM) Systems



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.



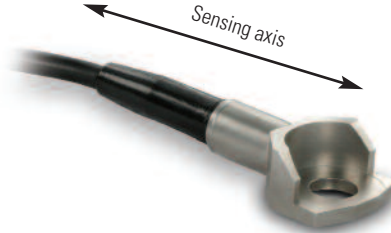
Sensors for Flight Monitoring and Predictive Maintenance



Mechanical Diagnostics

Model 337A30

- 10 mV/g [1.02 mV/(m/s²)] sensitivity
- ± 500 g pk measurement range
- 1 to 15k Hz frequency range (±10%)
- -65 to +250 °F (-54 to + 121 °C) temperature range
- Welded hermetic seal
- Stainless steel housing
- 10-ft (3m) Integral cable, pigtail ends
- Electrical case isolation
- 0.5 in Hex x 1.86 in
12.7 mm x 47.2 mm (D x H)



Models 337A31

- 10 mV/g [1.02 mV/(m/s²)] sensitivity
- ± 500 g pk measurement range
- 1 to 5000 Hz frequency range (±10%)
- -65 to +250 °F (-54 to + 121 °C) temperature range
- Welded hermetic seal
- Stainless steel housing
- 10-ft (3m) Integral cable, pigtail ends
- Electrical case isolation
- 2.0 in x 0.80 in x 0.41 in
50.8 mm x 20.3 mm x 10.4 mm (L x W x H)



Models 337A36

- 10 mV/g [1.02 mV/(m/s²)] sensitivity
- ± 500 g pk measurement range
- 1 to 5000 Hz frequency range (±10%)
- -65 to +250 °F (-54 to + 121 °C) temperature range
- Welded hermetic seal
- Stainless steel housing
- 10-ft (3m) Integral cable, pigtail ends
- Electrical case isolation
- 0.84 in x 0.56 in x 1.16 in
21.3 mm x 14.2 mm x 29.5 mm (L x W x H)



Model 355A41

- 10 mV/g [1.02 mV/(m/s²)] sensitivity
- ± 500 g pk measurement range
- 1 to 15k Hz frequency range (± 5%)
- -65 to +300 °F (-54 to +149 °C) temperature range
- Welded hermetic seal
- Stainless steel housing
- 3-pin, 80 Series connector
- Electrical case isolation
- 1.47 in x 0.75 in x 0.52 in
37.3 mm x 19.1 mm x 13.2 mm (L x W x H)

Model 355A43

- 2 mV/g [1.02 mV/(m/s²)] sensitivity
- ± 2500 g pk measurement range
- 1 to 10k Hz frequency range (± 5%)
- -65 to +300 °F (-54 to +149 °C) temperature range
- Welded hermetic seal
- Stainless steel housing
- 3-pin, 80 Series connector
- Electrical case isolation
- 1.63 in x 0.85 x 0.63 in
41.4 mm x 21.6 mm x 16.0 mm (L x W x H)



Model 355A40

- 10 mV/g [1.02 mV/(m/s²)] sensitivity
- ± 500 g pk measurement range
- 1 to 20k Hz frequency range (± 5%)
- -65 to +250 °F (-54 to +121 °C) temperature range
- Welded hermetic seal
- Stainless steel housing
- 10-ft (3m) Integral cable, pigtail ends
- Electrical case isolation
- 1.47 in x 0.75 in x 0.52 in
37.3 mm x 19.1 mm x 13.2 mm (L x W x H)

Model 355A42

- 2 mV/g [1.02 mV/(m/s²)] sensitivity
- ± 2500 g pk measurement range
- 1 to 10k Hz frequency range (± 5%)
- -65 to +250 °F (-54 to +121 °C) temperature range
- Welded hermetic seal
- Stainless steel housing
- 10-ft (3m) Integral cable, pigtail ends
- Electrical case isolation
- 1.63 in x 0.85 x 0.63 in
41.4 mm x 21.6 mm x 16.0 mm (L x W x H)



Rotor Track & Balance (RTB) Systems

Models 355A63 Single Axis

- 100 mV/g [10.2 mV/(m/s²)] sensitivity
- ± 50 g pk measurement range
- 3 to 3000 Hz frequency range (±10%)
- -65 to +250 °F (-54 to + 121 °C) temperature range
- Welded hermetic seal
- Stainless steel housing
- 2-Pin, MS3113 connector
- Electrical case isolation
- 1.05 in x 1.87 in x 1.22 in
26.7 mm x 47.5 mm x 31.0 mm (H x L x W)

Models 354A68 Biaxial

- 100 mV/g [10.2 mV/(m/s²)] sensitivity
- ± 50 g pk measurement range
- 3 to 3000 Hz frequency range (±10%)
- -65 to +250 °F (-54 to + 121 °C) temperature range
- Welded hermetic seal
- Stainless steel housing
- 3-Pin, MS3113 connector
- Electrical case isolation
- 1.05 in x 1.87 in x 1.22 in
26.7 mm x 47.5 mm x 31.0 mm (H x L x W)

Models 354A69 Triaxial

- 100 mV/g [10.2 mV/(m/s²)] sensitivity
- ± 50 g pk measurement range
- 3 to 3000 Hz frequency range (±10%)
- -65 to +250 °F (-54 to + 121 °C) temperature range
- Welded hermetic seal
- Stainless steel housing
- 4-Pin, MS3113 connector
- Electrical case isolation
- 1.05 in x 1.87 in x 1.22 in
26.7 mm x 47.5 mm x 31.0 mm (H x L x W)



Models 355A64 Single Axis

- 100 mV/g [10.2 mV/(m/s²)] sensitivity
- ± 50 g pk measurement range
- 3 to 3000 Hz frequency range (±10%)
- -65 to +250 °F (-54 to + 121 °C) temperature range
- Welded hermetic seal
- Stainless steel housing
- 2-Pin, MS3113 connector
- Electrical case isolation
- 1 in x 1.38 in
25.4 mm x 35.1 mm (H x D)

Models 354A70 Biaxial

- 100 mV/g [10.2 mV/(m/s²)] sensitivity
- ± 50 g pk measurement range
- 3 to 3000 Hz frequency range (±10%)
- -65 to +250 °F (-54 to + 121 °C) temperature range
- Welded hermetic seal
- Stainless steel housing
- 3-Pin, MS3113 connector
- Electrical case isolation
- 1 in x 1.38 in
25.4 mm x 35.1 mm (H x D)

Models 354A71 Triaxial

- 100 mV/g [10.2 mV/(m/s²)] sensitivity
- ± 50 g pk measurement range
- 3 to 3000 Hz frequency range (±10%)
- -65 to +250 °F (-54 to + 121 °C) temperature range
- Welded hermetic seal
- Stainless steel housing
- 4-Pin, MS3113 connector
- Electrical case isolation
- 1 in x 1.38 in
25.4 mm x 35.1 mm (H x D)





Engine Vibration Monitoring High Temperature Accelerometers



550 °F (288 °C)

Model 357B81

- 20 pC/g [2.04 pC/(m/s²)] sensitivity
- ± 2000 g pk measurement range
- 9000 Hz frequency range (±5%)
- -65 to +550 °F (-54 to + 288 °C) temperature range
- Welded hermetic seal
- Stainless steel housing
- 7/16-27 2-Pin connector
- Electrical case isolation
- 1.0 in x 0.75 in
25.4 mm x 19.1 mm (H x D)

Model 357B82

- 50 pC/g [5.1 pC/(m/s²)] sensitivity
- ± 1000 g pk measurement range
- 6000 Hz frequency range (±5%)
- -65 to +550 °F (-54 to + 288 °C) temperature range
- Welded hermetic seal
- Stainless steel housing
- 7/16-27 2-Pin connector
- Electrical case isolation
- 1.0 in x 0.75 in
25.4 mm x 19.1 mm (H x D)

Model 357B83

- 100 pC/g [10.2 pC/(m/s²)] sensitivity
- ± 500 g pk measurement range
- 6000 Hz frequency range (±5%)
- -65 to +550 °F (-54 to + 288 °C) temperature range
- Welded hermetic seal
- Stainless steel housing
- 7/16-27 2-Pin connector
- Electrical case isolation
- 1.0 in x 0.75 in
25.4 mm x 19.1 mm (H x D)

900 °F (482 °C)

Model 357C71

- 10 pC/g [1.02 pC/(m/s²)] sensitivity
- ± 1000 g pk measurement range
- 4000 Hz frequency range (±5%)
- -65 to +900 °F (-54 to + 482 °C) temperature range
- Welded hermetic seal
- Inconel housing
- 7/16-27 2-Pin connector
- Electrical case isolation
- 1.0 in x 0.75 in
25.4 mm x 19.1 mm (H x D)

Model 357C72

- 50 pC/g [5.1 pC/(m/s²)] sensitivity
- ± 500 g pk measurement range
- 2500 Hz frequency range (±5%)
- -65 to +900 °F (-54 to + 482 °C) temperature range
- Welded hermetic seal
- Inconel housing
- 7/16-27 2-Pin connector
- Electrical case isolation
- 1.25 in x 0.75 in
31.8 mm x 19.1 mm (H x D)

Model 357C73

- 100 pC/g [10.2 pC/(m/s²)] sensitivity
- ± 300 g pk measurement range
- 2000 Hz frequency range (±5%)
- -65 to +900 °F (-54 to + 482 °C) temperature range
- Welded hermetic seal
- Inconel housing
- 7/16-27 2-Pin connector
- Electrical case isolation
- 1.48 in x 0.75 in
37.6 mm x 19.1 mm (H x D)

Engine Vibration Monitoring High Temperature ICP® Systems



Model 357B100

- 100 mV/g [10.2mV/(m/s²)] sensitivity
- ± 50 g pk measurement range
- 3.4 to 6000 Hz frequency range (±10%)
- -65 to +900 °F (-54 to + 482 °C) accelerometer temperature range
- Hermetically sealed
- Inconel housing
- 2-pin, MIL-C-5015 connector
- Integral 10-ft (3m) hardline cable
- Electrical case isolation
- 1.0 in x 1.5 in
25.4 mm x 38.1 mm (H x D)

Model 357B110

- 10 mV/g [1.02mV/(m/s²)] sensitivity
- ± 500 g pk measurement range
- 3.4 to 6000 Hz frequency range (±10%)
- -65 to +900 °F (-54 to + 482 °C) accelerometer temperature range
- Hermetically sealed
- Inconel housing
- 2-pin, MIL-C-5015 connector
- Integral 10-ft (3m) hardline cable
- Electrical case isolation
- 1.0 in x 1.5 in
5.4 mm x 38.1 mm (H x D)



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