ACCELEROMETERS FOR HEALTH & USAGE MONITORING SYSTEMS (HUMS)
Health and Usage Monitoring Systems (HUMS) are gaining wide acceptance as an effective predictive maintenance strategy for helicopter gearboxes and drive train, gas turbine engines 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.

Manufactured in our AS9100 facility, this brochure showcases our ICP® and charge output accelerometers in several hermetically sealed 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.

HIGHLIGHTS
- Accelerometers tailored for mechanical diagnostics and rotor track & balance
- Case isolated to reduce EMI & ground loop interference
- ICP® & charge output operations
- Can be qualified to RTCA/DO-160 & MIL-STD-810

APPLICATIONS
- Mechanical Diagnostics
- Rotor Track & Balance (RTB)
- Engine Vibration Monitoring (EVM) Systems
SINGLE AXIS ICP® FOR MECHANICAL DIAGNOSTICS

LOW PROFILE INDUSTRIAL ICP® ACCELEROMETER
MODEL 602D01
- Sensitivity: 100 mV/g (10.2 mV/(m/s²))
- Measurement Range: ±50 g (±4905 m/s² pk)
- Frequency Range (±5%): 1 to 8000 Hz
- Size L x W X H: 0.65 x 0.38 x 0.23 in. (16.4 x 9.6 x 5.84 mm.)

STUD MOUNT CERAMIC SHEAR ICP® ACCELEROMETER
MODEL 337A30
- Sensitivity: 10 mV/g (1.02 mV/(m/s²))
- Measurement Range: ±500 g (±4905 m/s² pk)
- Frequency Range (±10%): 1 to 15000 Hz

MINIATURE RING-STYLE ICP® ACCELEROMETER
MODEL 355A44
- Sensitivity: 10 mV/g (1.02 mV/(m/s²))
- Measurement Range: ±500 g (±4905 m/s² pk)
- Frequency Range: (±5%): 1 to 5500 Hz

RING-STYLE ICP® ACCELEROMETER
MODEL 355A40
- Sensitivity: 10 mV/g (1.02 mV/(m/s²))
- Measurement Range: ±500 g (±4905 m/s² pk)
- Frequency Range (±5%): 1 to 20000 Hz

UHT-12™ MINIATURE ICP® ACCELEROMETER
MODEL 320C52
- Sensitivity: 10 mV/g (1.02 mV/(m/s²))
- Measurement Range: ±500 g (±4905 m/s² pk)
- Frequency Range (±5%): 1 to 10000 Hz
- Size L x W X H: 0.65 x 0.38 x 0.23 in. (16.4 x 9.6 x 5.84 mm.)

UHT-12™ MINIATURE ICP® ACCELEROMETER
MODEL 320C53
- Sensitivity: 1 mV/g (0.102 mV/(m/s²))
- Measurement Range: ±5000 g (±49050 m/s² pk)
- Frequency Range (±5%): 1 to 5000 Hz
- Size L x W X H: 0.65 x 0.38 x 0.23 in. (16.4 x 9.6 x 5.84 mm.)

UNIAXIAL ACCELEROMETER
MODEL 355A63
- Sensitivity: 100 mV/g (10.2 mV/(m/s²))
- Measurement Range: ±50 g (±490 m/s² pk)
- Frequency Range (±5%): 1 to 3000 Hz

SINGLE AXIS ICP® FOR MECHANICAL DIAGNOSTICS
TRIAXIAL ICP® FOR MECHANICAL DIAGNOSTICS

TRIAXIAL THRU-HOLE MOUNTING ICP® ACCELEROMETER
MODEL 354A04
- Sensitivity: 10 mV/g (1.02 mV/(m/s²))
- Measurement Range: ±500 g (±4905 m/s² pk)
- Frequency Range (±5%): 0.4 to 5000 Hz

MODEL 354A05
- Sensitivity: 100 mV/g (10.2 mV/(m/s²))
- Measurement Range: ±50 g (±491 m/s² pk)
- Frequency Range (±5%): 0.4 to 5000 Hz

PRECISION SIDE EXIT TRIAXIAL INDUSTRIAL ACCELEROMETER
MODEL 629A30
- Sensitivity: 10 mV/g (1 mV/(m/s²))
- Measurement Range: ±500 g (±4905 m/s²)
- Frequency Range (±3dB): 0.8 to 8000 Hz

MODEL 629A31
- Sensitivity: 100 mV/g (10.2 mV/(m/s²))
- Measurement Range: ±50 g (±490 m/s²)
- Frequency Range (±3dB): 0.8 to 8000 Hz

TRIAXIAL INDUSTRIAL ICP® ACCELEROMETER
MODEL 629A11
- Sensitivity: 100 mV/g (10.2 mV/(m/s²))
- Measurement Range: ±50 g (±490 m/s²)
- Frequency Range (±3dB): 0.8 to 8000 Hz
CHARGE MODE FOR HIGHER TEMPERATURES

UHT-12™ HIGH TEMPERATURE ACCELEROMETER
MODEL EX600B13
- Sensitivity: 100 mV/g (10.2 mV/(m/s²))
- Sensing Element: UHT-12™
- Measurement Range: ±50 g (±490 m/s²)

MODEL EX600B14
- Sensitivity: 10 mV/g (1.02 mV/(m/s²))
- Sensing Element: UHT-12™
- Measurement Range: ±500 g (±4900 m/s²)

CHARGE OUTPUT ACCELEROMETER
MODEL 357C71
- Sensitivity: 10 pC/g (1.02 pC/(m/s²))
- Measurement Range: ±1000 g (±9810 m/s² pk)
- Frequency Range (±5%): 4000 Hz

MODEL 357C72
- Sensitivity: 50 pC/g (5.1 pC/(m/s²))
- Measurement Range: ±500 g (±4905 m/s² pk)
- Frequency Range (±5%): 2500 kHz

MODEL 357C73
- Sensitivity: 100 pC/g (10.2 pC/(m/s²))
- Measurement Range: ±300 g (±2943 m/s² pk)
- Frequency Range (±5%): 2000 Hz
MINIATURE RING-STYLE CHARGE OUTPUT ACCELEROMETER
MODEL 357B06
- Sensitivity: 5 pC/g (0.51pC/(m/s²))
- Measurement Range: ±500 g (±4905 m/s² pk)
- Frequency Range (+5%): 10000 Hz
- Size L x W X H: 0.65 x 0.38 X 0.23 in. (16.4 x 9.6 x 5.84 mm.)

MINIATURE RING-STYLE CHARGE OUTPUT ACCELEROMETER
MODEL 357M113
- Sensitivity: 5 pC/g (0.51pC/(m/s²))
- Measurement Range: +/- 2000 g (19,620 m/s² pk)
- Frequency Range (+5%): 10000 Hz

UHT-12™ CHARGE OUTPUT ACCELEROMETER
MODEL 357A100
- Sensitivity: 5.0 pC/g (0.510 pC/(m/s²))
- Measurement Range: ±200 g (±1962 m/s² pk)
- Frequency Range (+5%): 4000 Hz
UHT-12™ CHARGE OUTPUT ACCELEROMETER
MODEL 357E90
- Sensitivity: 5 pC/g (.51 pC/(m/s²))
- Measurement Range: ±1000 g (±9800 m/s² pk)
- Frequency Range: (±5%) 3000 Hz
- Active in Vertical Direction

UHT-12™ CHARGE OUTPUT ACCELEROMETER
MODEL 357E91
- Sensitivity: 5 pC/g (.51 pC/(m/s²))
- Measurement Range: ±1000 g (±9800 m/s² pk)
- Frequency Range: (±5%) 3000 Hz
- Active in Horizontal Direction

UHT-12™ CHARGE OUTPUT ACCELEROMETER
MODEL 357E92
- Sensitivity: 2.3 pC/g (0.23 pC/(m/s²))
- Measurement Range: ±1000 g (±9800 m/s² pk)
- Frequency Range (±5%): 3000 Hz
- Active in Vertical Direction

UHT-12™ CHARGE OUTPUT ACCELEROMETER
MODEL 357E93
- Sensitivity: 2.3 pC/g (0.23 pC/(m/s²))
- Measurement Range: ±1000 g (±9800 m/s² pk)
- Frequency Range (±5%): 3000 Hz
- Active in Horizontal Direction
PCB Piezotronics, Inc. is a designer and manufacturer of microphones, vibration, pressure, force, torque, load, and strain sensors, as well as the pioneer of ICP® technology used by design engineers and predictive maintenance professionals worldwide for test, measurement, monitoring, and control requirements in automotive, aerospace, industrial, R&D, military, educational, commercial, OEM applications, and more. With a worldwide customer support team, 24-hour SensorLine®1, and a global distribution network, PCB® is committed to Total Customer Satisfaction. Visit www.pcb.com for more information. PCB Piezotronics, Inc. is a wholly owned subsidiary of MTS Systems Corporation. Additional information on MTS can be found at www.mts.com.

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