ACCELEROMETERS FOR HEALTH & USAGE MONITORING SYSTEMS (HUMS)
Health and Usage Monitoring Systems (HUMS) used for Condition Based Maintenance (CBM) programs are 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 Health Monitoring (VHM) 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 AS9100:2016 QMS Certified by DQS, Inc. 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 (CBM & VHM)
- Rotor Track & Balance (RTB)
- Engine Vibration Monitoring (EVM) Systems
- Electric Vertical Take Off and Landing (EVTOL)
- Urban Air Mobility
- Hybrid and Electric Aircraft Engine Testing
LOW PROFILE INDUSTRIAL ICP® ACCELEROMETER  
PCB MODEL 602D01

- Sensitivity: 100 mV/g  
  (10.2 mV/(m/s²))
- Measurement Range: ±50 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.)

STUD MOUNT CERAMIC SHEAR ICP® ACCELEROMETER  
PCB 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

RING-STYLE ICP® ACCELEROMETER  
PCB MODEL 355A40

- 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  
PCB MODEL 355A44

- Sensitivity: 10 mV/g  
  (1.02 mV/(m/s²))
- Measurement Range: ±500 g  
  (±4905 m/s² pk)
- Frequency Range (±5 %): 1 to 20000 Hz

MINIATURE RING-STYLE ICP® ACCELEROMETER  
PCB 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.)

MINIATURE RING-STYLE ICP® ACCELEROMETER  
PCB 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.)

SINGLE AXIS ICP® FOR MECHANICAL DIAGNOSTICS

STUD MOUNT CERAMIC SHEAR ICP® ACCELEROMETER  
PCB 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

LOW PROFILE INDUSTRIAL ICP® ACCELEROMETER  
PCB MODEL 602D01

- Sensitivity: 100 mV/g  
  (10.2 mV/(m/s²))
- Measurement Range: ±50 g  
  (±490 m/s²)
- Frequency Range (±3dB): 0.5 to 8000 Hz

UNIAXIAL ACCELEROMETER  
PCB MODEL 355A63

- Sensitivity: 100 mV/g  
  (10.2 mV/(m/s²))
- Measurement Range: ± 50 g  
  (±490 m/s² pk)
- Frequency Range (±10%): 3 to 3000 Hz
# TRIAXIAL ICP® FOR MECHANICAL DIAGNOSTICS

## TRIAXIAL THRU-POCKET MOUNTING ICP® ACCELEROMETER

**PCB MODEL 354B04**

- **Sensitivity:** 10 mV/g  
  (1.02 mV/(m/s²))
- **Measurement Range:** ±500 g  
  (±4905 m/s² pk)
- **Frequency Range (±5%):**  
  0.4 to 10,000 Hz

## PRECISION SIDE EXIT TRIAXIAL INDUSTRIAL ACCELEROMETER

**PCB MODEL 629A30**

- **Sensitivity:** 10 mV/g  
  (1 mV/(m/s²))
- **Measurement Range:** ±50 g  
  (±490 m/s²)
- **Frequency Range (±3dB):**  
  0.8 to 8000 Hz

## TRIAXIAL INDUSTRIAL ICP® ACCELEROMETER

**PCB 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

## TRIAXIAL IEPE ACCELEROMETER WITH 2 POLE LPF

**ENDEVCO MODEL 65HTLPF-10-02 & 65HTLPF-10-10**

- **Sensitivity:** 10 mV/g | 1.02 mV/(m/sec²)  
- **Measurement Range:** ±500 g (±4905 m/sec²)  
- **Frequency Range (±5%):** 5 to 1000 Hz / 5 to 5000 Hz

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Any potential picked up through cable shielding must be properly grounded at the signal conditioning (i.e., vibration monitoring system) end. If that cable potential is not transferred to the aircraft ground, that potential can build and leak into the measurement signal, creating a noisy output signal. PCB’s Model 010AY010NF cable is a 4-conductor, shield and grounded cable that helps reduce noisy data and works with our Model 354B04 & 65HTLPF-10-10 accelerometers.
CHARGE MODE FOR HIGHER TEMPERATURES

UHT-12™ HIGH TEMPERATURE ACCELEROMETER
PCB 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)

HIGH TEMPERATURE ACCELEROMETER
ENDEVCO MODEL 6222S
- Sensitivity: 100 pC/g (10.2 pC/(m/sec²))
- Frequency Range: 6000 Hz
- Measurement Range: 500 g pk (4905 m/sec² pk)

CHARGE OUTPUT ACCELEROMETER
PCB 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
CHARGE MODE FOR HIGHER TEMPERATURES

MINIATURE (2 GM) RING-STYLE CHARGE OUTPUT ACCELEROMETER
PCB MODEL 357B06
- Sensitivity: 5 pC/g (0.51 pC/(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
PCB MODEL 357M113
- Sensitivity: 5 pC/g (0.51 pC/(m/s²))
- Measurement Range: +/- 2000 g (19,620 m/s² pk)
- Frequency Range (+5%): 10000 Hz

UHT-12™ CHARGE OUTPUT ACCELEROMETER
PCB 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
PCB MODEL EX357E90
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
PCB MODEL EX357E91
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
PCB MODEL EX357E92
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
PCB MODEL EX357E93
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