



CONSTRUCTION & AGRICULTURAL VEHICLE TESTING & DEVELOPMENT

THE TOUGHEST SENSORS FOR TOUGHEST ENVIRONMENTS

PCB® offers a wide selection of products with reliable accuracy for testing in the extreme environments experienced by off highway vehicles. From one extreme to the other, we can provide sensors for your toughest equipment in the most challenging conditions no matter if they are baking in the desert sun, freezing in the arctic winter, or mired in mud at a construction site.

ELECTRICALLY ISOLATED ACCELEROMETERS

As equipment, drivetrains, and electric powertrains become increasingly advanced, more and more electronic systems are added to the vehicles to increase safety and performance. The additional electronics can potentially cause interference while testing the equipment. PCB® has developed special electrically isolated accelerometers to avoid electrical noise in your measurements.



GROUND ISOLATED HIGH TEMP MINIATURE TRIAXIAL ACCELEROMETERS

MODEL HTJ356B01

- Sensitivity: ($\pm 20\%$) 5 mV/g
- Measurement Range: ± 1000 g pk
- Frequency Range: ($\pm 5\%$) 2 to 8000 Hz
- Weight: 0.04 oz (1.0 gram)



GROUND ISOLATED MINIATURE TRIAXIAL ACCELEROMETERS

MODEL J356A03/NC

- Sensitivity: ($\pm 20\%$) 10 mV/g
- Measurement Range: ± 500 g pk
- Frequency Range: ($\pm 5\%$) 2 to 8000 Hz



GROUND ISOLATED TRIAXIAL ACCELEROMETER WITH TEDS

MODELS J356A43, J356A44, J356A45

- Sensitivities Available From: ($\pm 10\%$) 10 mV/g to 100 mV/g
- Measurement Range Available From: ± 500 g pk (± 4905 m/s² pk) to ± 50 g pk (± 490 m/s² pk)
- Frequency Range: ($\pm 5\%$) 0.7 to 7000 Hz



GROUND ISOLATED MINIATURE TRIAXIAL ACCELEROMETERS

MODEL 354B04, 354B05

- Sensitivity: ($\pm 20\%$) 10 mV/g or 100 mV/g
- Measurement Range: ± 500 g pk or ± 50 g pk
- Frequency Range: ($\pm 5\%$) 2 to 10000 Hz



ACCELEROMETER, ICP®, TRIAXIAL

MODEL 356A15

- Sensitivity: ($\pm 10\%$) 100 mV/g (10.2 mV/(m/s²))
- Measurement Range: ± 50 g pk (± 490 m/s² pk)
- Frequency Range: ($\pm 5\%$) 2 to 5000 Hz



ACCELEROMETER, ICP®, TRIAXIAL

MODEL 356A19

- Sensitivity: ($\pm 10\%$) 10 mV/g (1.02 mV/(m/s²))
- Measurement Range: ± 500 g pk (± 4905 m/s² pk)
- Frequency Range: ($\pm 5\%$) 1 to 13000 Hz



ACOUSTICS

ICP® microphones are used to measure sound pressure levels inside cabs, measure pass-by noise levels, confirm equipment conforms and meet the multitude of different safety and engineering standards present in the industry today.



1/2" PREPOLARIZED FREE-FIELD MICROPHONE

MODEL 378B02

Sensitivity: 50 mV/Pa (± 1.5 dB)

Frequency Range: 3.75 Hz – 20 kHz (± 2 dB)

Dynamic Range: 15.5 dBA – 137 dB

TEDS Compliant



1/2" WATER AND DUST RESISTANT ICP® MICROPHONE SYSTEM

MODEL 130A24

IP55 Rated for harsh environments

Frequency Range: 20 Hz - 16000 Hz

Dynamic Range: 30 dBA – 143 dB

TEDS Compliant



1/4" FREE-FIELD ICP® ARRAY MICROPHONE SYSTEM

SERIES 130F

Low noise floor: 24 dBA

Frequency Range: 10 Hz - 20000 Hz (+/- 4 dB)

Integral preamplifier & various connector options

TEDS Compliant



ICP® PROBE MICROPHONE

MODEL 377B26

Sensitivity: 2.15 mV/Pa

Temperature Range: -40 to +800 °C

Dynamic Range: 44 dBA – 165 dB



ICP® ELECTRET SURFACE MICROPHONE

MODEL 130B40

Sensitivity: 8.5 mV/Pa

Dynamic Range: 32 dBA – 143 dB

Low profile 1/8" (3mm) height to minimize wind noise



DC RESPONSE ACCELEROMETERS

PCB® series 3711F, 3713F, 3741F, and 3743F DC response sensors are used to measure low frequency motion down to zero hertz. These accelerometers are used in applications with low frequency and amplitude requirements, as well as road load data acquisition (RLDA), drivability, ride and handling, and vehicle performance testing. Each series includes a full scale measurement range from $\pm 2g$ to $\pm 200g$ and features low spectral noise with high resolution. DC response sensors feature capacitive silicon MEMS sensing elements for uniform, repeatable performance and high frequency overload protection.



SINGLE-ENDED MEMS ACCELEROMETERS

SERIES 3711F & 3713F

- Sensitivities:
6.75 mV/g to 675mV/g ($\pm 3\%$)
- Measurement Ranges:
 $\pm 2 g$ pk to $\pm 200 g$ pk
- Frequency response
from 0 Hz up to 2500 Hz ($\pm 10\%$)
- Case isolated, hermetically sealed titanium housing
- Available with integral cable or multi-pin, threaded electrical connector
- Available in single-axis or triaxial configurations



DIFFERENTIAL OUTPUT, SINGLE AXIS MEMS ACCELEROMETERS

SERIES 3741F

- Sensitivities:
13.5 mV/g to 1350 mV/g ($\pm 3\%$)
- Measurement Ranges:
 $\pm 2 g$ pk to $\pm 200 g$ pk
- Frequency response
from 0 Hz up to 2500 Hz ($\pm 10\%$)
- Ground isolated, hard-anodized aluminum housing
- Integral, 4-conductor shielded cable



DIFFERENTIAL OUTPUT, TRIAXIAL MEMS DC ACCELEROMETERS

SERIES 3743F

- Sensitivities:
13.5 mV/g to 1350 mV/g ($\pm 3\%$)
- Measurement Ranges:
 $\pm 2 g$ pk to $\pm 200 g$ pk
- Frequency response
from 0 Hz up to 2500 Hz ($\pm 10\%$)
- Case isolated, hermetically sealed titanium housing
- 9-Pin threaded electrical connector

HIGH TEMPERATURE ACCELEROMETERS

PCB's high temperature accelerometers utilize proprietary piezoelectric crystals for optimal performance and the best accuracy in high temperature environments. The UHT-12™ crystal has better resolution and thermal performance than any accelerometer on the market today. It features a sensitivity that remains more consistent over a wide temperature change and the absence of pyroelectric noise spikes up to 1200 °F (649 °C).



CHARGE OUTPUT UHT-12™ ACCELEROMETER

MODEL 357E92

- Sensitivity: (±10%) 2.3 pC/g
- Measurement Range: ±1000 g pk
- Frequency Range: (±5%) 3000 Hz
- Temperature Range: -67 to 1200 °F (-55 to 649 °C)



MINIATURE CHARGE OUTPUT UHT-12™ ACCELEROMETER

MODEL 357A63

- Sensitivity: (±10%) 0.53 pC/g
- Measurement Range: ±5000 g pk
- Frequency Range: (±10%) 10000 Hz
- Temperature Range: -65 to 900 °F (-54 to 482 °C)



MINIATURE CHARGE OUTPUT ACCELEROMETER

MODEL 356A67

- Sensitivity: (±15%) 3 pC/g
- Measurement Range: ±1k g
- Frequency Range (±10%): 10k Hz
- Temperature Range: -76 to 392°F (-60 to 200°C)



UHT-12™ LOW THERMAL COEFFICIENT ICP® TRIAXIAL ACCELEROMETER

MODEL 339A30

- Sensitivity: (±10%) 10 mV/g
- Measurement Range: ±500 g pk
- Frequency Range: (±5%) 2 to 8000 Hz
- Temperature Range: -65 to 325 °F (-54 to 163 °C)



UHT-12™ LOW THERMAL COEFFICIENT ICP® TRIAXIAL ACCELEROMETER

MODEL 339B32

- Sensitivity: (±10%) 10 mV/g
- Measurement Range: ±500 g pk
- Frequency Range: (±5%) 2 to 10000 Hz
- Temperature Range: -65 to 325 °F (-54 to 163 °C)



UHT-12™ LOW THERMAL COEFFICIENT ICP® TRIAXIAL ACCELEROMETER

MODEL 339C31

- Sensitivity: (±10%) 10 mV/g
- Measurement Range: ±500 g pk
- Frequency Range: (±5%) 2 to 8000 Hz
- Temperature Range: -65 to 356 °F (-54 to 180 °C)



**LOW THERMAL
COEFFICIENT ICP® TRIAXIAL
ACCELEROMETER WITH TEDS**
MODEL TLD339A34

Sensitivity: ($\pm 10\%$) 50 mV/g
Measurement Range: ± 100 g pk
Frequency Range: ($\pm 5\%$) 2 to 5000 Hz
Temperature Range: -65 to 325 °F
(-54 to 163 °C)



**LOW THERMAL
COEFFICIENT ICP® TRIAXIAL
ACCELEROMETER WITH TEDS**
MODEL TLD339A36

Sensitivity: ($\pm 10\%$) 10 mV/g
Measurement Range: ± 500 g pk
Frequency Range: ($\pm 5\%$) 2 to 5000 Hz
Temperature Range: -65 to 325 °F
(-54 to 163 °C)



**UHT-12™ LOW THERMAL
COEFFICIENT ICP® TRIAXIAL
ACCELEROMETER WITH TEDS**
MODEL TLD339A37

Sensitivity: ($\pm 10\%$) 100 mV/g
Measurement Range: ± 50 g pk
Frequency Range: ($\pm 5\%$) 0.3 to 4000 Hz
Temperature Range: -65 to 356 °F
(-54 to 180 °C)



**HIGH TEMPERATURE ICP®
TRIAXIAL ACCELEROMETER**
MODEL HT356A33

Sensitivity: ($\pm 10\%$) 10 mV/g
Measurement Range: ± 500 g pk
Frequency Range: ($\pm 5\%$) 2 to 10000 Hz
Temperature Range: -65 to 325 °F
(-54 to 163 °C)



**HIGH TEMPERATURE ICP®
TRIAXIAL ACCELEROMETER
WITH TEDS**
MODEL HT356A43

Sensitivity: ($\pm 10\%$) 10 mV/g
Measurement Range: ± 500 g pk
Frequency Range: ($\pm 5\%$) 1.6 to 7000 Hz
Temperature Range: -65 to 325 °F
(-54 to 163 °C)



**HIGH TEMPERATURE ICP®
TRIAXIAL ACCELEROMETER
WITH TEDS**
MODEL HT356A44

Sensitivity: ($\pm 10\%$) 50 mV/g
Measurement Range: ± 100 g pk
Frequency Range: ($\pm 5\%$) 12 to 7000 Hz
Temperature Range: -65 to 325 °F
(-54 to 163 °C)



**TRIAXIAL ICP®
ACCELEROMETER**
MODEL HT356A02

Sensitivity: ($\pm 10\%$) 10 mV/g
(1.02 mV/(m/s²))
Measurement Range: ± 500 g pk
(± 4900 m/s² pk)
Frequency Range: ($\pm 5\%$) 5000 Hz
Temperature Range: -65 to +250 °F
(-54 to +121 °C)



**TRIAXIAL LIGHTWEIGHT
MINIATURE ICP®
ACCELEROMETER**
MODEL HT356B01

Sensitivity: 5 mV/g
Measurement Range: 1000 g
Frequency Range: ($\pm 5\%$) 8000 Hz
(y or z axis), 5000 Hz (x axis)
Temperature Range: -65 to +356 °F
(-54 to +180 °C)

FORCE, LOAD & TORQUE

PCB® load cells feature advanced structural design, making them extremely durable, perfect for vehicle life cycle testing and structural testing. The TORKDISC® torque sensor system is designed for vehicle applications requiring in-line rotary torque measurements such as drive line measurements, while our force sensors are excellent for automotive fatigue testing applications.



ROD END LOAD CELL
MODEL 1381-04A

Measurement Range: 20 k lb (89 kN)
Sensitivity: 2.00 mV/V
50% static overload protection



S-TYPE LOAD CELL
MODEL 1631-01C

Measurement Range: 500 lb (2224 N)
Size: Height: 3.0 in (76.2 mm)
10 ft - Integrated Cable



TORKDISC® TELEMETRY SYSTEM
MODEL 5302D-02A

Measurement Range: 5,000 in-lb (565 Nm)
Maximum Speed: 15,000 RPM
16 Bit Telemetry



ICP® FORCE SENSOR
MODEL 208C03

Measurement Range: 500 lb (2.224 kN) Compression/Tension
Height: 0.625 in (15.88 mm)
Low Frequency Response: (-5%) 0.0003 Hz



ROTARY TORQUE SENSOR
MODEL 3125-01A

Measurement Range: 5,000 in-lb (565 N-m)
Mounting: Keyed shaft
Maximum Speed: 7,900 RPM



REACTION TORQUE SENSOR
MODEL 2302-02A

Measurement Range: 20,000 lbf-in (2,259 Nm)
50% static overload protection
5 in (127 mm) diameter steel flange



GENERAL PURPOSE LOW PROFILE LOAD CELL
SERIES 1200

Measurement Range: 500 to 50k lbf (2200 to 220k N)
English and Metric sizes
PT and PC connector styles



PEDAL FORCE TRANSDUCER
MODEL 1515-110-03A

Measurement Range: 300 lbf (1,334 Nm)
Sensitivity: 2.00 mV/V
Height: 0.84 in (21.4 mm)



STRAIN SENSOR
MODEL 740B02

Sensitivity: 50 mV/με
Measurement Range: 100 pk με
Frequency Range: 0.5 to 100,000 Hz
Temperature Range: -65 to +250 °F (-53 to +121 °C)



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