

Including ENDEVCO sensors, electronics, and cables



### 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: 5 mV/g

Measurement Range: ±1k g pk

Frequency Range: (±5%) 2 to 8k Hz

Weight: 0.04 oz (1.0 gm)



## GROUND ISOLATED MINIATURE TRIAXIAL ACCELEROMETERS

MODEL J356A03/NC

Sensitivity: 10 mV/g

Measurement Range: ±500 g pk

Frequency Range: (±5%)

2 to 8k Hz

Weight: 0.04 oz (1.0 gm)



# GROUND ISOLATED MINIATURE TRIAXIAL ACCELEROMETERS

MODEL 354B04, 354B05

Sensitivity: 10 / 100 mV/g

Measurement Range: ±500 / ±50 g pk

Frequency Range: (±5%)

0.6 to 10k Hz

Weight: 0.51 oz (14.5 gm)



### ICP® MINIATURE TRIAXIAL ACCELEROMETER

MODEL 356A19

Sensitivity: 10 mV/g

Measurement Range: ±500 g pk

Frequency Range: (±5%) 1 to 13k Hz

Weight: 0.14 oz (4.0 gm)



### ICP® TRIAXIAL ACCELEROMETER

MODEL 356A15

Sensitivity: 100 mV/g

Measurement Range: ±50 g pk

Frequency Range: (±5%) 2 to 5k Hz



### GROUND ISOLATED TRIAXIAL ACCELEROMETER WITH TEDS

MODELS J356A43, J356A44, J356A45

Sensitivities: 10 / 50 / 100 mV/g

Measurement Range: ±500 / ±100 / ±50 g pk

Frequency Range: (±5%)

0.7 to 7k 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

Frequency Range: 3.75 Hz - 20 kHz

 $(\pm 2 dB)$ 

Dynamic Range: 137 dB re 20 µPa

**TEDS Compliant** 





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

MODEL 130A24

Sensitivity: 10 mV/Pa

Frequency Range: 20 Hz - 16k Hz

 $(\pm 3 dB)$ 

Dynamic Range: 150 dB re 20 μPa

TEDS Compliant, IP55 Rated for

harsh environments



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

SERIES 130F

Sensitivity: 45 mV/Pa

Frequency Range: 10 Hz - 20k Hz (±4 dB)

Dynamic Range: 122 dB re 20 µPa

**TEDS Compliant** 



#### **ICP® PROBE MICROPHONE**

MODEL 377B26

Sensitivity: 2.15 mV/Pa

Frequency Range: 2 Hz - 20 kHz

 $(\pm 4 dB)$ 

Dynamic Range: 165 dB re 20 µPa

Temperature Range:

-40 to +1472 °F (-40 to +800 °C)



### ICP® ELECTRET SURFACE MICROPHONE

MODEL 130B40

Sensitivity: 8.5 mV/Pa

Frequency Range: 20 Hz - 10k Hz

 $(\pm 3 dB)$ 

Dynamic Range: 142 dB re 20 µPa

**TEDS Compliant** 



### **VC MEMS ACCELEROMETERS**

PCB® series 3711F, 3713F, 3741F, and 3743G variable capacitance MEMS (VC MEMS) accelerometers 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 ± 2g to ± 200g and features low spectral noise with high resolution. VC MEMS accelerometers feature capacitive silicon MEMS sensing elements for uniform, repeatable performance and high frequency overload protection.





### SINGLE-ENDED VC MEMS ACCELEROMETERS

SERIES 3711F & 3713F

Sensitivity: 6.75 to 675 mV/g

Measurement Range: ±2 g pk to ±200

Frequency Range: (±5%) 0 to 1.5k Hz

Case isolated, hermetically sealed titanium housing

Available with integral cable or multi-pin, threaded electrical connector



### DIFFERENTIAL OUTPUT, SINGLE AXIS VC MEMS ACCELEROMETERS

SERIES 3741F

Sensitivity: 13.5 to 1350 mV/g

Measurement Range: ±2 to ±200 g pk

Frequency Range: (±5%) 0 to 1.5k Hz

Ground isolated, hard-anodized aluminum housing

Integral, 4-conductor shielded cable





### DIFFERENTIAL OUTPUT, TRIAXIAL VC MEMS ACCELEROMETERS

SERIES 3743G

Sensitivity: 13.5 to 1350 mV/g

Measurement Range: ±2 to ±200 g pk

Frequency Range: from 0 to 250 Hz to 0 to 1.5k Hz (±5 %)

Case isolated, hermetically sealed stainless steel housing

M8x1 8-pin connector (3743G11) / IP67 connection (3743G12)

### 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 EX357E92

Sensitivity: 2.3 pC/g

Measurement Range: ±1k g pk

Frequency Range: (±5%) 3k Hz

Temperature Range: -67 to 1400 °F

(-55 to 760 °C)



### UHT-12™ LOW THERMAL COEFFICIENT ICP® TRIAXIAL ACCELEROMETER

MODEL 339A30

Sensitivity: 10 mV/g

Measurement Range: ±500 g pk

Frequency Range: (±5%) 2 to 8k Hz

Temperature Range: -65 to 325 °F

(-54 to 163 °C)



### UHT-12™ LOW THERMAL COEFFICIENT ICP® TRIAXIAL ACCELEROMETER

MODEL 339B32

Sensitivity: 10 mV/g

Measurement Range: ±500 g pk

Frequency Range: (±5%) 2 to 10k Hz

Temperature Range: -65 to 325 °F

(-54 to 163 °C)



### UHT-12™ LOW THERMAL COEFFICIENT ICP® TRIAXIAL ACCELEROMETER

MODEL 339C31

Sensitivity: 10 mV/g

Measurement Range: ±500 g pk

Frequency Range: (±5%) 2 to 8k Hz

Temperature Range: -65 to 250 °F

(-54 to 121 °C)



### MINIATURE CHARGE OUTPUT UHT-12™ ACCELEROMETER

**MODEL 357A63** 

Sensitivity: 0.53 pC/g

Measurement Range: ±5k g pk

Frequency Range: (±10%) 10k Hz

Temperature Range: -65 to 900 °F

(-54 to 482 °C)

Weight: 0.31 oz (8.7 gm)



### MINIATURE CHARGE OUTPUT ACCELEROMETER

MODEL 357A67

Sensitivity: 3.0 pC/g

Measurement Range: ±1000 g pk

Frequency Range (±10%): 1 to 10k Hz

Temperature Range: -76 to +392 °F

(-60 to +200 °C)

Weight: 0.17 oz (4.9 gm)



### LOW THERMAL COEFFICIENT ICP® TRIAXIAL ACCELEROMETER WITH TEDS

MODEL TLD339A34

Sensitivity: 50 mV/g

Measurement Range: ±100 g pk

Frequency Range: (±5%) 2 to 5k Hz

Temperature Range: -65 to 325 °F

(-54 to 163 °C)



### HIGH TEMPERATURE ICP® TRIAXIAL ACCELEROMETER

MODEL HT356A33

Sensitivity: 10 mV/g

Measurement Range: ±500 g pk

Frequency Range: (±5%) 2 to 10k Hz

Temperature Range: -65 to 250 °F

(-54 to 121 °C)



### HIGH TEMPERATURE ICP® TRIAXIAL ACCELEROMETER

MODEL HT356A02

Sensitivity: 10 mV/g

Measurement Range: ±500 g pk

Frequency Range: (±5%) 5k Hz

Temperature Range: -65 to +250 °F

(-54 to +121 °C)



#### LOW THERMAL COEFFICIENT ICP® TRIAXIAL ACCELEROMETER WITH TEDS

MODEL TLD339A36

Sensitivity: 10 mV/g

Measurement Range: ±500 g pk

Frequency Range: (±5%) 2 to 5k Hz

Temperature Range: -65 to 325 °F

(-54 to 163 °C)



### HIGH TEMPERATURE ICP® TRIAXIAL ACCELEROMETER WITH TEDS

MODEL HT356A43

Sensitivity: 10 mV/g

Measurement Range: ±500 g pk

Frequency Range: (±5%) 1.6 to 7k 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 pk

Frequency Range: (±5%) 8k Hz

Temperature Range: -65 to +356 °F

(-54 to +180 °C)

Weight: 0.04 oz (1.0 gm)



#### UHT-12™ LOW THERMAL COEFFICIENT ICP® TRIAXIAL ACCELEROMETER WITH TEDS

MODEL TLD339A37

Sensitivity: 100 mV/g

Measurement Range: ±50 g pk

Frequency Range: (±5%) 0.3 to 4k Hz

Temperature Range: -65 to 356 °F

(-54 to 180 °C)



### HIGH TEMPERATURE ICP® TRIAXIAL ACCELEROMETER WITH TEDS

MODEL HT356A44

Sensitivity: 50 mV/g

Measurement Range: ±100 g pk

Frequency Range: (±5%) 12 to 7k Hz

Temperature Range: -65 to 325 °F

(-54 to 163 °C)



### AMPLIFIED OUTPUT PIEZORESISTIVE ACCELEROMETER

MODEL 7262A

Sensitivity: 5 / 2 /1 mV/g

Measurement Range: ±100 / ±500 / ±1000

Frequency Response:0 - 2000

Temperature Range:
 -65 to +250 °F (-54 to +121 °C)

Weight: 0.212 (6.0 gm)

# 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

Sensitivity: 2 mV/V

Measurement Range: 20 k lb

Resonant Frequency: 15 kHz

Overload Limit: 30 klbf



#### **ICP® FORCE SENSOR**

MODEL 208C03

Sensitivity: 10 mV/lb

Measurement Range: 500 lb

Frequency Response: (-5%) 0.0003 Hz

Overload Limit: 10k in-lb



### GENERAL PURPOSE LOW PROFILE LOAD CELL

SERIES 1200

Sensitivity: 2 to 4 mV/V

Measurement Range: 500 to 50k lbf

Resonant Frequency: 2.35 kHz to 15 kHz

Overload Limit: 750 lbf to 75 klbf



#### S-TYPE LOAD CELL

MODEL 1631-01C

Sensitivity: 2 mV/V

Measurement Range: 500 lb

Resonant Frequency: 2.2 kHz

Overload Limit: 750 lb



#### **ROTARY TORQUE SENSOR**

MODEL 3125-01A

Sensitivity: 2 mV/V

Measurement Range: 5k in-lb

Maximum Speed: 7,900 RPM

Overload Limit: 10k in-lb



#### PEDAL FORCE TRANSDUCER

MODEL 1515-110-03A

Sensitivity: 2 mV/V

Measurement Range: 300 lb

Overload Limit: 600 lbf



### TORKDISC® TELEMETRY SYSTEM

MODEL 5302D-02A

Measurement Range: 5k in-lb

Frequency Range (-3 dB): 0 to 8.5K H

Maximum Speed: 15,000 RPM

16 Bit Telemetry



#### REACTION TORQUE SENSOR

MODEL 2302-02A

Sensitivity: 2 mV/V

Measurement Range: 20k lbf-in

Resonant Frequency: 2.2k Hz

Overload Limit: 20 klbf



#### **STRAIN SENSOR**

MODEL 740B02

Sensitivity: 50 mV/με

Measurement Range: 100 pk με

Frequency Range: 0.5 to 100k Hz





3425 Walden Avenue, Depew, NY 14043 USA

pcb.com | info@pcb.com | 800 828 8840 | +1 716 684 0001