



SENSORS FOR RESEARCH & DEVELOPMENT AND MACHINERY HEALTH MONITORING



## NEW FROM PCB®

Sensors & Instrumentation for Measuring Vibration,  
Sound, Torque, Pressure, Force, and Strain



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 **PCB** PIEZOTRONICS<sup>INC.</sup>



# ACCELEROMETERS FOR SHOCK & VIBRATION MEASUREMENTS

- Triaxial ICP® Accelerometers
- Charge Output Accelerometers
- Shock Accelerometers
- MEMS DC Accelerometers



## Low Noise MEMS DC Accelerometers

Series 3711E, 3713E & 3741E

- From 2 to 200 g's
- Single axis & triaxial
- Single ended & differential outputs



## Triaxial ICP® Low Thermal Coefficient Accelerometers

Series TLD339A36

- Temperature Coefficient of Sensitivity:  $-0.03\%/^{\circ}\text{F}$  ( $-0.06\%/^{\circ}\text{C}$ )
- Applications with large thermal shifts
- TEDS enabled



## Low Outgassing Miniature (1.3 gm), Ceramic Shear ICP® Accelerometer with TEDS

Model TLD352A57

- One sensor for sine, random & shaker shock of satellites
- Sensitivity:  $2.5\text{ mV/g}$  ( $0.255\text{ mV}/(\text{m/s}^2)$ )
- Measurement Range:  $\pm 2000\text{ g pk}$  ( $\pm 19,620\text{ m/s}^2\text{ pk}$ )



## Triaxial, Lightweight (1.0 gm) Miniature, Ceramic Shear ICP® Accelerometers

Model HT356B01

- Operation to  $356^{\circ}\text{F}$  ( $180^{\circ}\text{C}$ )
- Sensitivity:  $5\text{ mV/g}$  ( $0.51\text{ mV}/(\text{m/s}^2)$ )
- Measurement Range:  $\pm 1000\text{ g pk}$  ( $\pm 9810\text{ m/s}^2\text{ pk}$ )



## MEMS High-G Surface Mount Shock Accelerometers

Series 3503C20xxKG3

- Piezoresistive low power design for shock recorders and fuzes
- 2k, 20k and 60k g measuring ranges
- Light damping and mechanical stops



## Charge Output Accelerometer with UHT-12™ Shear Sensing Crystal

Model 357A100

- Noise free operation to  $900^{\circ}\text{F}$  ( $482^{\circ}\text{C}$ )
- Sensitivity:  $5.0\text{ pC/g}$  ( $.510\text{ pC}/(\text{m/s}^2)$ )
- Measurement Range:  $\pm 200\text{ g pk}$  ( $\pm 1962\text{ m/s}^2\text{ pk}$ )



## ICP® Mechanically Isolated 100,000 g Shock Accelerometer

Model 350B01

- Sensitivity:  $0.05\text{ mV/g}$  ( $0.005\text{ mV}/(\text{m/s}^2)$ )
- Frequency Range: 2 to 25,000 Hz ( $\pm 981,000\text{ m/s}^2\text{ pk}$ )



## Piezoresistive MEMS Triaxial, 2000 g Shock Accelerometer

Model 3503A102KG

- Sensitivity:  $0.20\text{ mV/g}$  ( $0.02\text{ mV}/(\text{m/s}^2)$ )
- Frequency Range: 0 to 10,000 Hz ( $\pm 19620\text{ m/s}^2\text{ pk}$ )



## Piezoresistive MEMS Stud Mount, 2000 g Shock Accelerometer

Model 3501A122KG

- Sensitivity:  $0.20\text{ mV/g}$  ( $0.02\text{ mV}/(\text{m/s}^2)$ )
- Frequency Range: 0 to 10,000 Hz ( $\pm 19620\text{ m/s}^2\text{ pk}$ )



### Triaxial, Lightweight Miniature ICP® Accelerometers

Model 356A43

- Sensitivity: (±10%) 10 mV/g (1.02 mV/(m/s<sup>2</sup>))
- Measurement Range: ±500 g pk (±4905 m/s<sup>2</sup> pk)
- Broadband Resolution: 0.0008 g rms (.008 m/s<sup>2</sup> rms)
- Frequency Range: (+/-5%) 0.7 to 7000 Hz
- Electrical Connector: 1/4-28 4-Pin

Model 356A44

- Sensitivity: (±10%) 50 mV/g (5.1 mV/(m/s<sup>2</sup>))
- Measurement Range: ±100 g pk (±981 m/s<sup>2</sup> pk)
- Broadband Resolution: 0.0006 g rms (.006 m/s<sup>2</sup> rms)
- Frequency Range: (+/-5%) 0.7 to 7000 Hz
- Electrical Connector: 1/4-28 4-Pin

Model 356A45

- Sensitivity: (±10%) 100 mV/g (10.2 mV/(m/s<sup>2</sup>))
- Measurement Range: ±50 g pk (±490 m/s<sup>2</sup> pk)
- Broadband Resolution: 0.0005 g rms (0.005 m/s<sup>2</sup> rms)
- Frequency Range: (+/-5%) 0.7 to 7000 Hz
- Electrical Connector: 1/4-28 4-Pin

## SENSORS FOR RESEARCH & DEVELOPMENT

- Pressure Sensors
- Signal Conditioners
- Load Cells



### Ballistic Shot Shell Pressure Sensor

Model 118A07

- SAAMI and CIP approved
- Measurement Range: 35,000 psi (103,400 kPa)
- Sensitivity: (±15%) 0.28 pC/psi (0.041 pC/kPa)



### ICP® Signal Conditioner

Model 482C24

- AC/DC coupling
- x0.1 to x200 incremental gain
- Front panel keypad and display



### Fatigue Rated Load Cells

- 500 to 100k lbs.
- Sensitivity: 2 to 4 mV/V
- Fatigue rated
- 0.04 to 0.06% static error band



As you browse this brochure, you will find **Platinum Stock** products indicated with the “Platinum Shield” icon (shown above). See back cover for more information.



## SENSORS FOR MACHINERY HEALTH MONITORING

- ICP® Accelerometers
- Vibration Transmitters
- Vibration Switches



### ICP® Accelerometers with M12 Connector

Models 601A92, 602D91 & 603D91

- Sensitivity:  
100 mV/g (10.2 mV/(m/s<sup>2</sup>))  
for Models 602D91 & 603D91,  
or 500 mV/g (51 mV/(m/s<sup>2</sup>))  
for Model 601A92
- Frequency Range:  
Up to 10 kHz (600,000 cpm)  
for Models 601A92 & 603D91,  
or up to 8 kHz (480,000 cpm)  
for Model 602D91



### ICP® Accelerometer with Integral Magnet

Model 607M123

- Sensitivity:  
100 mV/g (10.2 mV/(m/s<sup>2</sup>))
- Frequency Range:  
0.5 Hz to 13 kHz (30 to 780,000 cpm)



### Hazardous Area Approved Triaxial ICP® Accelerometer

Model EX629A11A

- Sensitivity:  
100 mV/g (10.2 mV/(m/s<sup>2</sup>))
- Frequency Range:  
2 Hz to 10 kHz (120 to 600,000 cpm)(z)  
2 Hz to 7 kHz (120 to 420,000 cpm) (x/y)





## SENSORS FOR POWER GENERATION EQUIPMENT

- ICP® and Charge Output Accelerometers
- ICP® and Charge Output Pressure Sensors
- Charge Amplifiers



**500 °F Charge Output Accelerometer**

Model EX615A42

- Sensitivity: 100 pC/g (10.2 pC/(m/s<sup>2</sup>))
- Frequency Range: Up to 6 kHz (360,000 cpm)



**900 °F Charge Output Accelerometer**

Model EX619A11

- Sensitivity: 50 pC/g (5.1 pC/(m/s<sup>2</sup>))
- Frequency Range: Up to 3 kHz (180,000 cpm)



**1200 °F Charge Output Accelerometers with UHT-12™ Element**

Models 357D92 & 357D93

- Sensitivity: 2.3 pC/g (0.23 pC/(m/s<sup>2</sup>))
- Frequency Range: Up to 4 kHz (240,000 cpm)



**1200 °F Charge Output Pressure Sensor with UHT-12™ Element**

Model 176A02

- Sensitivity: 6.0 pC/g (87 pC/bar)
- Frequency Range: Up to 20 kHz (1,200,000 cpm)



**Differential Charge Amplifiers**

Models 421A30, 421A31, 421A3X

- Sensitivity: Configurable
- Voltage Output: ±5 Vpk



**Differential DIN Rail Charge Amplifier**

Model EX682A40

- Sensitivity: 10 mV/pC
- Voltage Output: ±2.5 V pk



# MICROPHONES FOR ACOUSTIC MEASUREMENTS

- Prepolarized Microphones
- Array Microphones
- Preamplifiers



## 1/2" Low Noise Free-field Microphone System

Model 378A04

- Dynamic Range:  
Low 6.5 dBA noise floor
- High sensitivity, 450 V/Pa
- Prepolarized (industry first)



## 1/2" Water & Dust Resistant Free-field Microphone System

Model 130A24

- Frequency Range:  
20 Hz to 16 kHz ( $\pm 3$  dB)
- Dynamic Range:  
30 dBA to 150 dB
- For harsh environments



## 1/2" Random Incidence, Mid - High Frequency & Amplitude Microphone System

Model 378A21

- Frequency Range:  
4 Hz to 25 kHz
- Dynamic Range:  
22 dBA to 147 dB
- For cabin noise and environmental tests



## 1/4" & 1/2" Short Preamplifiers

Models 426A07 & 426A13

- Low noise
- For confined areas



## 1" Array Microphone System

Model 130A23

- Frequency Range:  
20 Hz to 20 kHz ( $\pm 2$  dB)
- Dynamic Range:  
30 dBA to 150 dB



## 1/2" Free-field Low Frequency Microphone System

Model 378A07

- Frequency Range:  
0.13 Hz to 20 kHz ( $\pm 2$  dB)
- Dynamic Range:  
20 dBA to 134 dB



## 1/2" Free-field, High Amplitude, High Frequency Microphone

Model 377A06

- Frequency Range:  
3 Hz to 40 kHz F ( $\pm 3$  dB)
- Dynamic Range:  
20 dBA to 160 dB



## 1" Prepolarized Pressure Microphone

Model 377A15

- Dynamic Range:  
10 dBA to 150 dB
- IEC 61094-4 WS1P
- For sound level meters and couplers



## Surface Microphone

Model 130B40

- Low profile (1/8")  
minimizes wind noise
- Dynamic Range:  
32 dBA to 150 dB

# NOISE & VIBRATION MONITORING SOLUTIONS

- Sound Level Meters
- Noise Monitoring Systems
- Human Vibration Meters



## NoiseTutor Portable Noise Monitoring System

- Receive “event” alerts
- Hear “event” recordings
- Publish real-time data



## Customizable Software Development Kit for Model 831 and LxT Sound Level Meters

- Connect, control, download, and view data from multiple meters simultaneously



## Human Vibration Meter

Model HVM200

- Measure hand-arm, whole body and general vibration
- Manage workplace risk
- Perform production quality testing



## Outdoor Preamplifier with Automatic Calibration Check

Model PRM2103

- Built-in temperature & humidity sensors



## Permanent NoiseTutor

Model NMS043

- Complete noise monitoring system
- Wireless remote monitoring (optional)



## Low Noise Measurement with Model 831 (831-LOWN)

- No external power supply required
- 10 Hz to 16 kHz frequency range
- Highly portable
- Low power (4 mA ICP®)
- Single channel



## Outdoor Protection for 1/2” Microphones

Model EPS2116

- Built-in water repellent barrier for microphone protection in any weather
- Flexible mounting options



## PLATINUM STOCK SENSORS

SAME DAY SHIPPING - LIFETIME WARRANTY

# SAME DAY SHIPPING | LIFETIME WARRANTY

Platinum Stock Sensors\* program is one of the ways we live up to our Total Customer Satisfaction guarantee. Driven by customer demand, these sensors and cables are the best fit for typical R&D, product testing, and industrial monitoring applications. Platinum Stock Sensors ship the same day and are backed by a lifetime warranty — if you are not 100% satisfied, simply send them back. We'll repair or replace them, guaranteed. No questions asked!

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