PCB PIEZOTRONICS

SENSORS FOR RESEARCH & DEVELOPMENT APPLICATIONS

SENSORS FOR RESEARCH & DEVELOPMENT APPLICATIONS

Including **ENDEVCO** sensors, electronics, and cables

PCB PIEZOTRONICS
AN AMPHENOL COMPANY

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WHO IS PCB®?

DELIVERING TOTAL CUSTOMER SATISFACTION

to engineers and maintenance professionals worldwide.

In 1967, PCB Piezotronics revolutionized the sensor industry with our integrated circuit piezoelectric (ICP®) technology, setting the tempo for innovation in sensor design for years to come. PCB's commitment to excellence reached new heights with the acquisition of **Endevco** in 2019, significantly enhancing our ability to meet evolving industry trends in the many markets we serve. As our product portfolio continues to grow, our unwavering dedication remains—empowering you to make dynamic measurements in more reliable, simple, and cost-effective ways.

1500+ employees worldwide

21 domestic and international sales offices

105 distributors in 130 countries

Product mix of over 28,000 models

AS9100:2016 QMS Certified by DQS, Inc.

ISO 9001:2015 QMS Certified by DQS, Inc.

ISO 17025 Accredited

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AEROSPACE & DEFENSE

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Shock wave velocity

Time-of-arrival (TOA) measurements

SHOCK TESTING

Blast loading and mitigation

Seat and occupant measurements

Metal-to-metal impacts

BALLISTIC TESTING

Internal ballistic pressure

Conformal and case mount measurements

Time-to-peak (TTP) measurements

Σ indicates Endevco product.

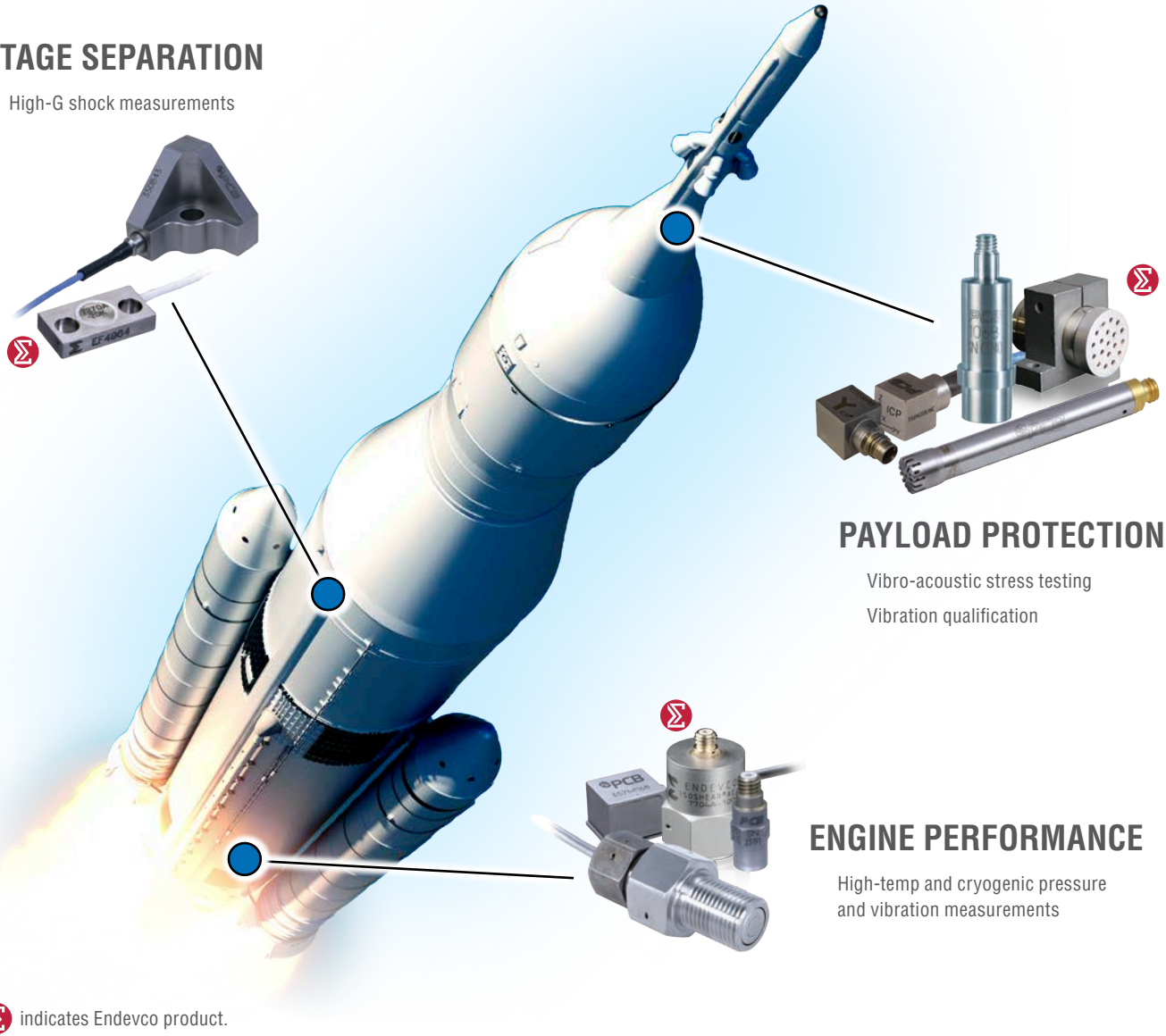
PCB built sensors for extreme aerospace and defense conditions, measuring up to 200,000 G's and functioning from -452 to 1400 °F. Our portfolio showcases unmatched reliability in the face of extreme temperatures, vacuum, shock, vibration, and acoustic stress. Supporting both commercial and military applications, we offer custom options to meet environmental standards and requirements, including program design requirements to RTCA-DO-160 and MIL-STD-810.

Popular Aerospace & Defense Applications:

- Armored vehicle testing
- Maritime testing
- Ship shock (MIL-S-901) testing
- Explosive and gun pressure measurements
- Commercial and military aircraft
- Rockets, payloads, and satellites

STAGE SEPARATION

High-G shock measurements



PAYLOAD PROTECTION

Vibro-acoustic stress testing

Vibration qualification

ENGINE PERFORMANCE

High-temp and cryogenic pressure and vibration measurements

Σ indicates Endevco product.

PCB SENSORS IN ACTION - Space Payload Qualification

CHALLENGE

Acoustic Research Systems (ARS), a solution provider for direct field acoustic noise testing (DFAN) systems, requires precise control instrumentation for their Neutron™ acoustic drivers. DFAN tests subject space payloads to high-intensity sound pressures exceeding 140 dB, closely simulating the launch environment to ensure all systems survive the journey to space.

SOLUTION

PCB's pre-polarized ICP® 378A12 microphone was the ideal choice due to its 182 dB dynamic range, wide frequency response, and onboard TEDS for easy setup. PCB application engineers assist ARS in constructing robust measurement chains tailored to each unique test requirement, including microphones, cables, in-field calibrators, mounting accessories, and accelerometers.

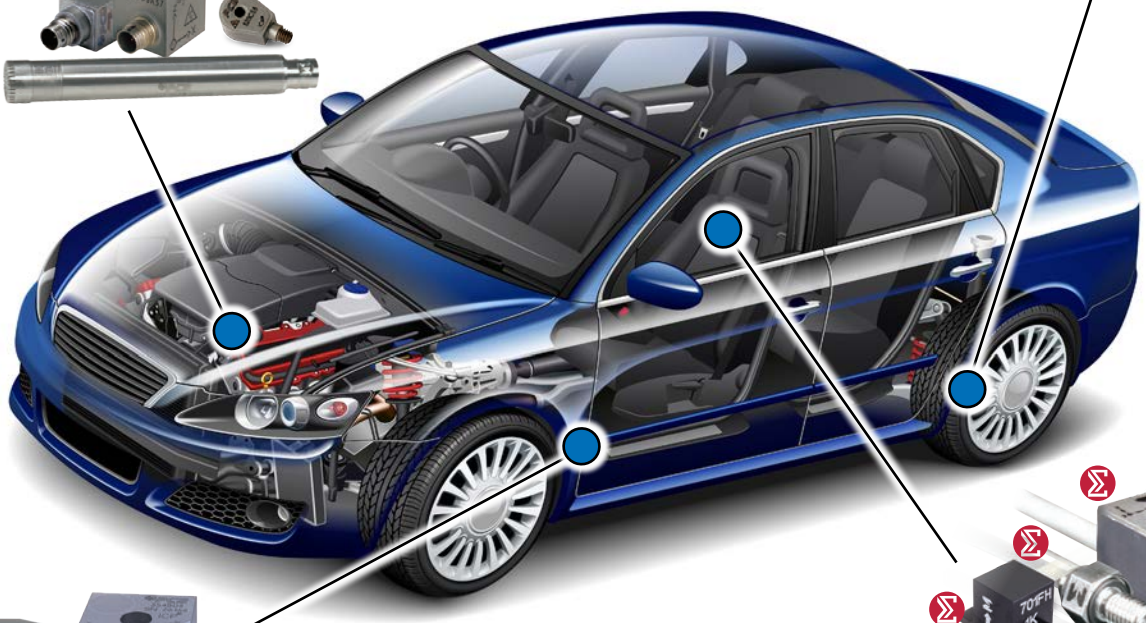
AUTOMOTIVE & RAIL

POWERTRAIN DEVELOPMENT

Powertrain NVH studies
Gearbox development
Turbo testing
Noise reduction

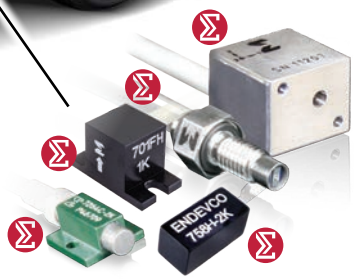
ROAD LOAD DATA ACQUISITION (RLDA)

Spindle force and motion testing
Suspension refinement
Ride and handling



NOISE, VIBRATION AND HARSHNESS TESTING (NVH)

Noise source identification
Dynamic system simulations
Competitor benchmarking



AUTO SAFETY

Anthropomorphic test devices (ATD)
Frontal, rear and side impact
Regulatory compliance testing

Σ indicates Endevco product.

With the strategic acquisition of the Endevco crash test sensor line, PCB has solidified its commitment to helping automotive and rail engineers meet evolving demands for connectivity, electrification, safety, and performance. Our journey into rail sensor design began in 1998, driven by a customer request for a high-speed train accelerometer. Today, PCB sensors support high-speed rail systems worldwide with on-board monitoring, reduced maintenance costs, and enhanced passenger comfort and safety.

Popular Automotive Applications:

ICE, hybrid, and electric vehicles
HVOR
Durability
Auto safety
Ride and handling

AERODYNAMIC TESTING

- Wind tunnel testing
- Turbulence measurements
- Entering and exiting tunnels, stations and platforms

RIDE COMFORT

- NVH
- Regulatory compliance
- Dynamic testing

RAILROAD MAINTENANCE AND SAFETY

- Derailment monitoring
- Condition monitoring
- Ride control

indicates Endevco product.

PCB SENSORS IN ACTION - Detection of Track Deformation

CHALLENGE SNCF Réseau – entrusted with the management, maintenance, and advancement of the French national rail network – required resilient sensors to facilitate real-time monitoring of rail track deformation while ensuring uninterrupted train schedules.

SOLUTION PCB Series 3741F MEMS accelerometers were prized for their reliability and shock resistance. In early 2021, the first sensor-fitted trains rolled out, enabling constant monitoring. Now, maintenance teams swiftly address emerging issues, ensuring smooth and safe railways.

INFRASTRUCTURE AND SEISMIC MONITORING

SEISMIC TESTING

- Foundation and floor vibration
- Earthquake detection
- Structural integrity verification

Engineers and scientists across the globe rely on PCB sensors for research, development, and product testing, ensuring optimal designs and faster time-to-market. Our seismic sensor technology plays a vital role in enhancing infrastructure safety by monitoring low-frequency vibrations in bridges, roads, and buildings, further highlighting the diverse research and development applications that PCB products support.

RESEARCH & DEVELOPMENT

ACOUSTIC TESTING

- Sound power measurements
- Sound quality measurements
- Noise source identification

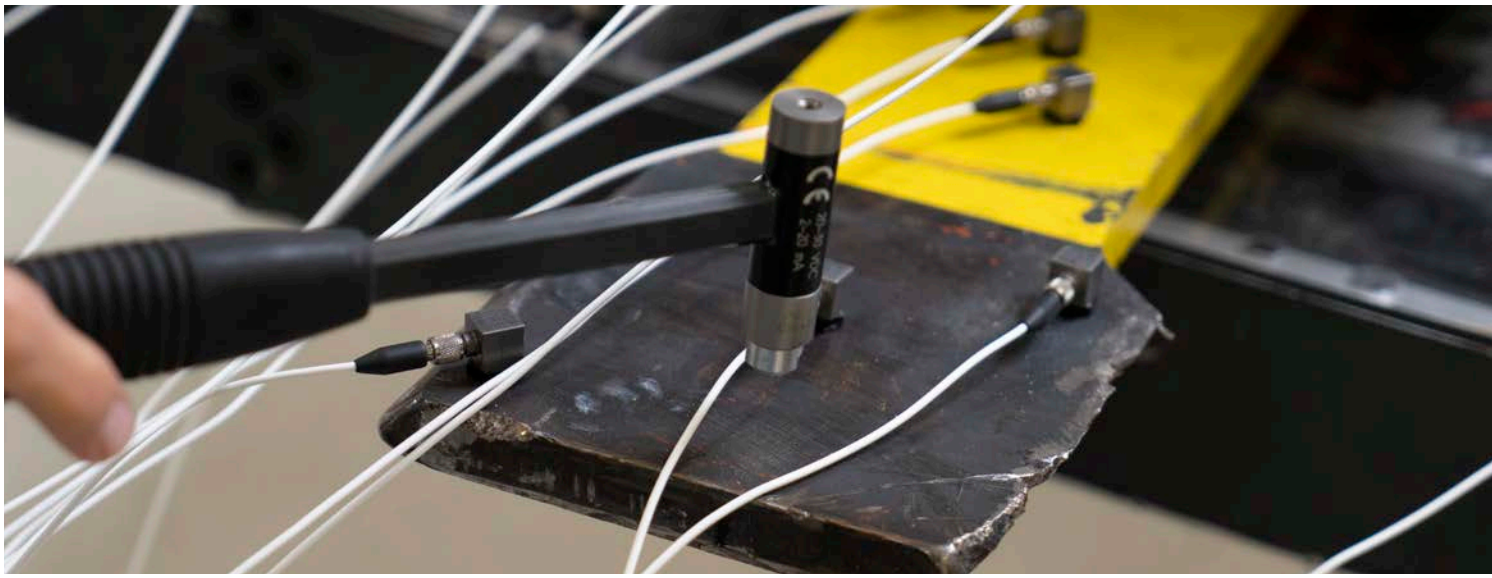
VIBRATION AND SHOCK TESTING

- Product life cycle testing
- Impact testing
- Modal testing

Σ indicates Endevco product.

Popular Research & Development Applications:

- Test laboratories
- Consumer products
- Acoustic testing
- Infrastructure testing and monitoring
- Semiconductor manufacturing

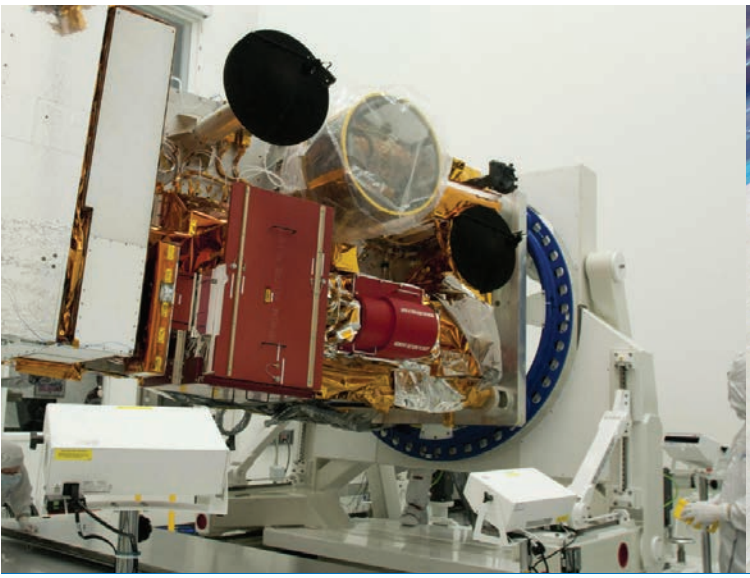


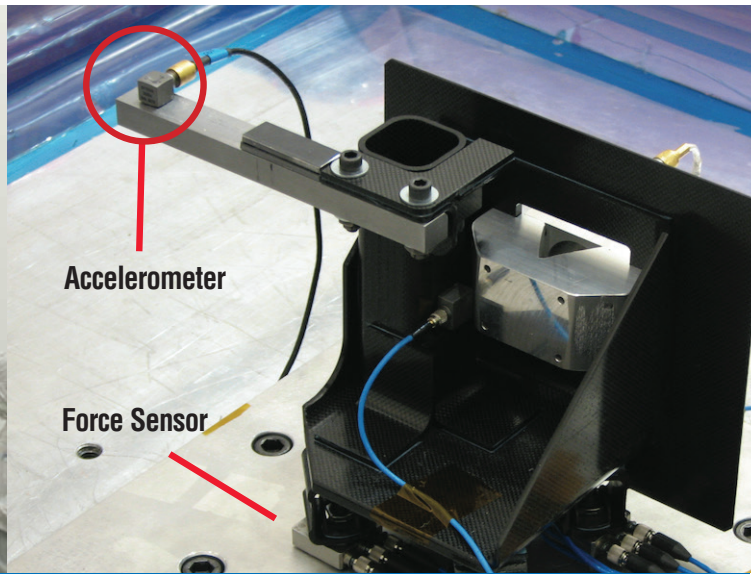
ICP® ACCELEROMETERS

The acronym ICP® (also known as IEPE) refers to a type of piezoelectric (PE) accelerometer with internal electronics (IE) that allow it to convert charge to a low-impedance voltage output. Its temperature response is somewhat limited due to its onboard electronics. This type of accelerometer is primarily specified for applications in which environmental conditions permit its use, including HALT/HASS/ESS testing, industrial vibration monitoring, and general purpose vibration and shock testing.

SINGLE AXIS ACCELEROMETERS (CERAMIC) – TEARDROP STYLE						
Model Number	**352A21**	**352C22**	**352C23**	**352A24**	**TLD352A56 TEDS**	**352A59 TEDS**
Sensitivity	10 mV/g	10 mV/g	5 mV/g	10 mV/g	100 mV/g	10 mV/g
Measurement Range	± 500 g pk	± 500 g pk	± 1000 g pk	± 500 g pk	± 50 g pk	± 500 g pk
Frequency Range (±5%)	1 to 10,000 Hz		2 to 10,000 Hz	1 to 8,000 Hz	0.5 to 10,000 Hz	1 to 10,000 Hz
Weight	0.02 oz [0.6 gm]	0.017 oz [0.5 gm]	0.007 oz [0.2 gm]	0.03 oz [0.8 gm]	0.06 oz [1.8 gm]	0.03 oz [0.9 gm]
Optional Models - Less Cable	**352A21/NC**	**352C22/NC**	**352C23/NC**	**352A24/NC**	---	**352A59/NC**
Typical Applications	General vibration testing of small components or within devices where mass is a concern					

Model Number	**352A71**	**352A73**	**352A74**	**352A91**	**352A92**
Sensitivity	10 mV/g	5 mV/g	100 mV/g	1.0 mV/g	0.25 mV/g
Measurement Range	± 500 g pk	± 1,000 g pk	± 50 g pk	± 5,000 g pk	± 20,000 g pk
Frequency Range (±5%)	0.5 to 10,000 Hz	2 to 10,000 Hz	1 to 8,000 Hz	1.2 to 10,000 Hz	
Weight	0.023 oz [0.64 gm]	0.01 oz [0.3 gm]	0.04 oz [1.22 gm]	0.006 oz [0.17 gm]	0.0055 oz [0.16 gm]
Typical Applications	General vibration testing of small components or within devices where mass is a concern				





PCB® Model 356M208 accelerometer and force sensors used during vibration testing of bracket assembly at Utah State Space Dynamics Lab.




SINGLE AXIS ACCELEROMETERS FOR MODAL TESTING						
Model Number	**333A22**	**333B30**	**333B32**	**333B40**	**333B45**	**333B50**
Sensitivity	10 mV/g	100 mV/g		500 mV/g		1,000 mV/g
Measurement Range	± 500 g pk	± 50 g pk		± 10 g pk		± 5 g pk
Frequency Range (±5%)	1 to 6,000 Hz	0.5 to 3,000 Hz		0.5 to 3,000 Hz		
Broadband Resolution	0.0005 g rms	0.00015 g rms		0.00005 g rms		
Optional Models - TEDS	TEDS Included	**TLD333B30**	**TLD333B32**	**TLD333B40**	**TLD333B45**	**TLD333B50**
Typical Applications	Modal analysis, testing where high resolution and low noise is critical					




SINGLE AXIS SHOCK ACCELEROMETERS WITH MECHANICAL ISOLATION						
Model Number	**350B01**	**350D02**	**350C03**	**350C04**	**350C23**	**350C24**
Sensitivity	0.05 mV/g	0.10 mV/g	0.5 mV/g	1.0 mV/g	0.5 mV/g	1.0 mV/g
Measurement Range	± 100,000 g pk	± 50,000 g pk	± 10,000 g pk	± 5,000 g pk	± 10,000 g pk	± 5,000 g pk
Frequency Range (± 1dB)	4 to 10,000 Hz		0.4 to 10,000 Hz			
Overload Shock	± 150,000 g		± 50,000 g			
Optional Models - Metric Mounting	**M350B01**	**M350D02**	**M350C03**	**M350C04**	**M350C23**	**M350C24**
Typical Applications	High impulse shock and blast testing with high survivability; integral mechanical and/or electrical filters limit saturation of signal.					

ICP® ACCELEROMETERS

The single and triaxial ICP® accelerometers are designed with a low temperature coefficient, wide operating temperature range, and good broadband measurement resolution, making them ideal for any vibration measurement requiring tight control of amplitude sensitivity over a wide thermal gradient. To alleviate the effects of high frequency overloads caused by metal-to-metal inputs, a low pass filter has been incorporated in some models, ensuring accurate data in the frequency range of interest.

SINGLE AXIS ACCELEROMETERS – ESS / HALT / HASS							
Model Number	**320C03**	**320C04**	**320C15**	**320C20**	**320C33**	**320C52**	**320C53**
Sensitivity	10 mV/g	10 mV/g	10 mV/g	10 mV/g	100 mV/g	10 mV/g	1 mV/g
Measurement Range	± 500 g pk	± 500 g pk	± 500 g pk	± 500 g pk	± 50 g pk	± 500 g pk	± 5,000 g pk
Frequency Range (±5%)	1 to 6,000 Hz		1 to 10,000 Hz	2 to 5,000 Hz	1 to 4,000 Hz	1 to 10,000 Hz	1 to 5,000 Hz
Operating Temperature Range	-100 to +325 °F (-73 to +163 °C)						
Sensing Element	Quartz					UHT-12™	
Optional Models - J Isolation / M Metric	**J320C03**	**J320C04**	**M320C15**	**M320C20**	---	**M320C52**	**M320C53**
Typical Applications	Accelerated life and durability testing at elevated temperatures						

339 SERIES OF ICP® ACCELEROMETERS WITH EXCELLENT THERMAL STABILITY						
Model Number	**339A30**	**339C31**	**339B32**	**TLD339A34**	**TLD339A36**	**TLD339A37**
Sensitivity	500 mV/g	500 mV/g	500 mV/g	100 mV/g	500 mV/g	100 mV/g
Measurement Range	± 10 g pk	± 10 g pk	± 10 g pk	± 50 g pk	± 10 g pk	± 50 g pk
Frequency Range (±5%)	2 to 8,000 Hz		2 to 10,000 Hz	2 to 5,000 Hz		0.3 to 4,000 Hz
Operating Temperature Range	-65 to +250 °F (-54 to +121 °C)					-65 to +356 °F (-54 to +180 °C
Optional Models - TEDS	---	---	---	Included	Included	Included
Optional Models - Less Cable	**339A30/NC**	**339C31/NC**	**339B32/NC**	---	---	**TLD339A37/NC**
Typical Applications	Testing under various temperatures; vehicle, turbo, and exhaust durability testing.					

TRIAXIAL SHOCK ACCELEROMETERS WITH MECHANICAL ISOLATION					
Model Number	**350B41**	**350B42**	**350B43**	**350B44**	**350B50***
Sensitivity	0.05 mV/g	0.10 mV/g	0.5 mV/g	1.0 mV/g	0.5 mV/g
Measurement Range	± 100,000 g pk	± 50,000 g pk	± 10,000 g pk	± 5,000 g pk	± 10,000 g pk
Frequency Range (± 1dB)	4 to 10,000 Hz		0.4 to 10,000 Hz		3 to 10,000 Hz
Overload Shock	± 150,000 g		± 50,000 g		± 25,000 g
Optional Models - Metric Mounting	Included				---
Optional Models - Less Extension Cable	350B41/NC	350B42/NC	350B43/NC	350B44/NC	350B50/NC
Typical Applications	High impulse shock and blast testing with high survivability; integral mechanical and/or electrical filters limit saturation of signal.				

*Does not have mechanical isolation

SINGLE AXIS ACCELEROMETERS – CRYOGENIC							
Model Number	**351B03**	**351B04**	**351B41**	**351B42**	**351B11**	**351B14**	**351A15**
Sensitivity	10 mV/g	10 mV/g	100 mV/g	100 mV/g	5 mV/g	5 mV/g	5.5 mV/g
Measurement Range	± 150 g pk		± 15 g pk		± 300 g pk		± 1000 g pk
Frequency Range (±5%)	1 to 6,000 Hz		1 to 2,000 Hz		1 to 10,000 Hz		1.25 to 6,500 Hz
Operating Temperature Range	-320 to +250 °F (-196 to +121 °C)						
Optional Models - Metric Mounting	Included				**M351B11**	**M351B14**	Included
Optional Models - Ground Isolation	**J351B03**	**J351B04**	**J351B41**	---	---	---	---
Typical Applications	Validation testing of cryogenic vessels, typically for rockets and satellites						

ICP® ACCELEROMETERS

SINGLE AXIS ACCELEROMETERS (CERAMIC) – GENERAL PURPOSE							
Model Number	**352B01**	**352C03**	**352C04**	**352B10**	**352C33**	**352C34**	**352C41**
Sensitivity	1 mV/g	10 mV/g			100 mV/g		10 mV/g
Measurement Range	± 5000 g pk	± 500 g pk			± 50 g pk		± 500 g pk
Frequency Range (±5%)	2 to 10,000 Hz	0.5 to 10,000 Hz		2 to 10,000 Hz	0.5 to 10,000 Hz		1 to 9,000 Hz
Weight	0.03 oz [0.7 gm]	0.2 oz [5.8 gm]		0.03 oz [0.7 gm]	0.2 oz [5.8 gm]		0.1 oz [2.8 gm]
Optional Models - Metric Mounting	---	Included	Included	---	Included	Included	---
Optional Models - TEDS	---	**TLD352C03**	**TLD352C04**	---	**TLD352C33**	**TLD352C34**	---
Optional Models - Ground Isolation	---	**J352C03**	**J352C04**	---	**J352C33**	**J352C34**	---
Typical Applications	General vibration testing of small components or within devices where mass is a concern						

Model Number	**352C42**	**352A60**	**352C65**	**352C66**	**352C67**	**352C68**
Sensitivity	100 mV/g	10 mV/g	100 mV/g			
Measurement Range	± 50 g pk	± 500 g pk	± 50 g pk			
Frequency Range (±5%)	1 to 9,000 Hz	5 to 60,000 Hz (±3 dB)	0.5 to 10,000 Hz			
Weight	0.1 oz [2.8 gm]	0.21 oz [6.0 gm]	0.07 oz [2.0 gm]			
Optional Models - Metric Mounting	---	**M352A60**	**M352C65**	**M352C66**	**M352C67**	**M352C68**
Optional Models - Ground Isolation	---	---	**J352C65**	**J352C66**	**J352C67**	**J352C68**
Typical Applications	General vibration testing of small components or within devices where mass is a concern					

SINGLE AXIS ACCELEROMETERS (QUARTZ) – GENERAL PURPOSE						
Model Number	**353B03**	**353B04**	**353B11**	**353B14**	**353B15**	**353B16**
Sensitivity	10 mV/g		5 mV/g		10 mV/g	
Measurement Range	± 500 g pk		± 1,000 g pk		± 500 g pk	
Frequency Range (±5%)	1 to 7,000 Hz		1 to 10,000 Hz			
Weight	0.38 oz [10.5 gm]		0.07 oz [2.0 gm]	0.06 oz [1.8 gm]	0.07 oz [2.0 gm]	0.05 oz [1.5 gm]
Optional Models - Metric Mounting	Included	Included	**M353B11**	**M353B14**	**M353B15**	**M353B16**
Optional Models - Ground Isolation	**J353B03**	**J353B04**	---	**J353B14**	**J353B15**	**J353B16**
Typical Applications	Low-noise application where overload or thermal shock may be an issue; maintains high stability through thermal cycling.					

Model Number	**353B17**	**353B18**	**353B31**	**353B32**	**353B33**	**353B34**
Sensitivity	10 mV/g		50 mV/g		100 mV/g	
Measurement Range	± 500 g pk		± 100 g pk		± 50 g pk	
Frequency Range (±5%)	1 to 10,000 Hz		1 to 5,000 Hz		1 to 4,000 Hz	
Weight	0.06 oz [1.7 gm]	0.06 oz [1.8 gm]	0.7 oz [20 gm]		0.95 oz [27 gm]	0.96 [27 gm]
Optional Models - Metric Mounting	**M353B17**	**M353B18**	Included	Included	Included	Included
Optional Models - Ground Isolation	**J353B17**	**J353B18 / JM353B18**	**J353B31**	**J353B32**	**J353B33**	**J353B34**
Typical Applications	Low-noise application where overload or thermal shock may be an issue; maintains high stability through thermal cycling.					

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TRIAXIAL THRU-BOLT ACCELEROMETERS WITH ISOLATION					
Model Number	**354C02**	**354C03**	**354B04**	**354B05**	**354C10**
Sensitivity	10 mV/g	100 mV/g	10 mV/g	100 mV/g	10 mV/g
Measurement Range	± 500 g pk	± 50 g pk	± 500 g pk	± 50 g pk	± 500 g pk
Frequency Range (±5%)	0.5 to 2,000 Hz		0.6 to 10,000 Hz		2 to 8,000 Hz
Isolation Method	Ground Isolated		Case Isolated		Ground Isolated
Optional Models - Metric Mounting	**M354C02**	**M354C03**	Included	Included	**M354C10**
Optional Models - TEDS	**TLD354C02**	**TLD354C03**	Included	Included	---
Typical Applications	Structural analysis with low noise in applications with electromagnetic field interference				




SINGLE AXIS RING ACCELEROMETERS WITH ISOLATION						
Model Number	**355B02**	**355B03**	**355A44**	**7250B-10**	**7251A-10**	**7251A-100**
Sensitivity	10 mV/g	100 mV/g	10 mV/g	10 mV/g	10 mV/g	100 mV/g
Measurement Range	± 500 g pk	± 50 g pk	± 500 g pk	± 500 g pk	± 500 g pk	± 50 g pk
Frequency Range (±5%)	1 to 10,000 Hz		1 to 5,500 Hz	3 to 20,000 Hz	2 to 10,000 Hz (±10%)	
Isolation Method	Ground Isolated		Case Isolated	Ground Isolated		
Optional Models - Metric Mounting	**M355B02**	**M355B03**	---	---	---	---
Typical Applications	A wide variety of applications from durability testing to active monitoring of harmonics					

MINIATURE TRIAXIAL ACCELEROMETERS - 0.25” [6.4 MM] FAMILY						
Model Number	**356A01**	**356A03**	**356A06**	**356A09**	**356A04**	**356A05**
Sensitivity	5 mV/g	10 mV/g	5 mV/g	10 mV/g	1 mV/g	0.25 mV/g
Measurement Range	± 1,000 g pk	± 500 g pk	± 1,000 g pk	± 500 g pk	± 5,000 g pk	± 20,000 g pk
Frequency Range (±5%)	2 to 8000 Hz				1.2 to 6,000 Hz	
Weight	0.04 oz [1.0 gm]				0.03 oz [0.8 gm]	
Optional Models - Less Cable	**356A01/NC**	**356A03/NC**	**356A06/NC**	**356A09/NC**	**356A04/NC**	**356A05/NC**
Optional Models - TEDS	**TLD356A01**	**TLD356A03**	---	---	---	---
Optional Models - Ground Isolation	**HTJ356B01**	**J356A03**	---	---	---	---
Typical Applications	General purpose applications requiring a medium size; ideal for modal analysis or vibration feedback.					

SMALL TRIAXIAL ACCELEROMETERS - 0.40” [10.2 MM] FAMILY							
Model Number	**356A19**	**356A43**	**356A44**	**356A45**	**356B20**	**356B21**	**356A33**
Sensitivity	10 mV/g		50 mV/g	100 mV/g	1 mV/g	10 mV/g	
Measurement Range	± 500 g pk		± 100 g pk	± 50 g pk	± 5,000 g pk	± 500 g pk	
Frequency Range (±5%)	1 to 13,000 Hz	0.7 to 7,000 Hz			2 to 10,000 Hz		
Weight	0.14 oz [4.0 gm]	0.15 oz [4.2 gm]			0.15 oz [4.2 gm]		0.19 oz [5.4 gm]
Optional Models - Less Cable	**356A19/NC**	---	---	---	**356B20/NC**	**356B21/NC**	---
Optional Models - TEDS	Included	Included	Included	Included	---	---	---
Optional Models - Ground Isolation	---	**J356A44**	**J356A44**	**J356A45**	---	**J356B21**	---
Typical Applications	General purpose applications requiring a medium size; ideal for modal analysis or vibration feedback.						

ICP® ACCELEROMETERS

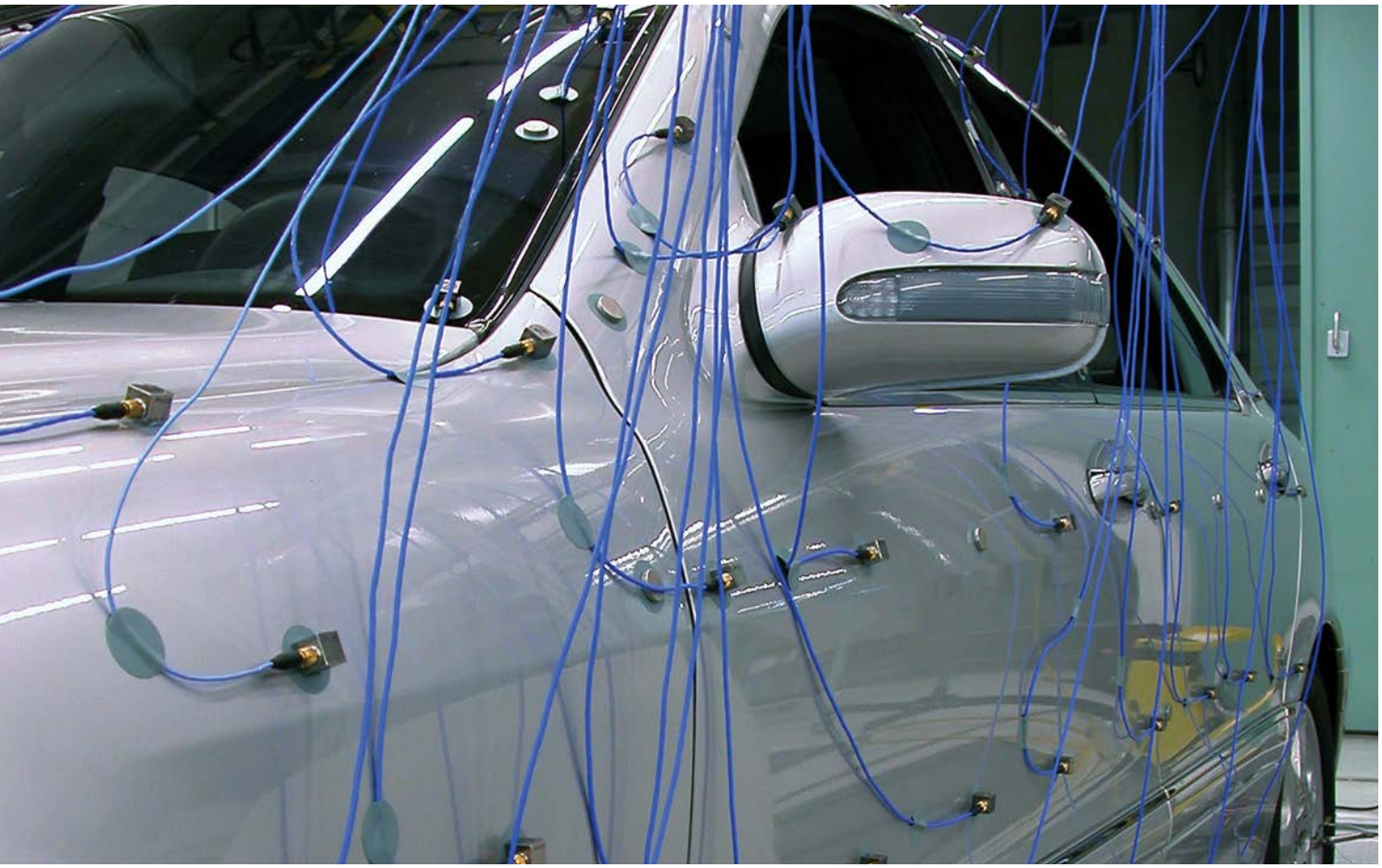



TRIAXIAL ACCELEROMETERS					
Model Number	**356A02**	**356A14**	**356A15**	**356A16**	**356A17**
Sensitivity	10 mV/g	100 mV/g			500 mV/g
Measurement Range	± 500 g pk	± 50 g pk			± 10 g pk
Frequency Range (±5%)	1 to 5,000 Hz	0.5 to 5,000 Hz	2 to 5,000 Hz	0.5 to 5,000 Hz	0.5 to 3,000 Hz
Weight	0.37 oz [10.5 gm]			0.26 oz [7.4 gm]	0.33 oz [9.3 gm]
Optional Models - TEDS	**TLD356A02**	**TLD356A14**	**TLD356A15**	**TLD356A16**	**TLD356A17**
Optional Models - High Temperature	**HT356A02**	---	**HT356A15**	---	---
Typical Applications	General purpose, modal analysis, or vibration feedback				





Model Number	**356B18**	**356A24**	**356A25**	**356A26**	**356A32**
Sensitivity	1,000 mV/g	10 mV/g	25 mV/g	50 mV/g	100 mV/g
Measurement Range	± 0.5 g pk	± 500 g pk	± 200 g pk	± 100 g pk	± 50 g pk
Frequency Range (±5%)	0.5 to 6,000 Hz	1 to 9,000 Hz	0.5 to 6,000 Hz		1 to 4,000 Hz
Weight	0.88 oz [25 gm]	0.11 oz [3.1 gm]	0.88 oz [25 gm]		0.19 oz [5.4 gm]
Optional Models - TEDS	**TLD356B18**	---	**TLD356A25**	**TLD356A26**	**TLD356A32**
Optional Models - High Temperature	---	**HT356A24**	**HT356A25**	**HT356A26**	---
Typical Applications	General purpose, modal analysis, or vibration feedback				






HIGH SENSITIVITY ACCELEROMETERS						
Model Number	**393A03**	**393B04**	**393B05**	**393B12**	**393B31**	**393B32**
Sensitivity	1,000 mV/g	1,000 mV/g	10.0 V/g	10.0 V/g	10.0 V/g	5.0 V/g
Measurement Range	± 5 g pk	± 5 g pk	± 0.5 g pk	± 0.5 g pk	± 0.5 g pk	± 1 g pk
Frequency Range (±5%)	0.5 to 2,000 Hz	0.06 to 450 Hz	0.7 to 450 Hz	0.15 to 1,000 Hz	0.1 to 200 Hz	0.2 to 200 Hz
Broadband Resolution	0.00001 g rms	0.000003 g rms	0.000004 g rms	0.000006 g rms	0.000001 g rms	0.000002 g rms
Optional Models - TEDS	---	**TLD393B04**	**TLD393B05**	---	---	---
Typical Applications	Applications requiring low noise / high sensitivity such as seismic monitoring of structures and smart infrastructure systems					

CHARGE ACCELEROMETERS

Charge mode output accelerometers can operate at extremely high temperatures, up to 1200 °F (649 °C), because they do not contain the built-in signal conditioning electronics that limit the temperature range of ICP® accelerometers. They use piezoceramic sensing elements that output an electrostatic charge signal proportional to the applied acceleration.



HIGH TEMPERATURE, SIDE EXIT CONNECTOR CHARGE ACCELEROMETERS				
Model Number	**357B03**	**357B21**	**7201-50**	**7201-10**
Sensitivity (±15 %)	10 pC/g	30 pC/g	50 pC/g	10 pC/g
Measurement Range	±2,000 g pk	±1,500 g pk	2,000 g pk	2,000 g pk
Frequency Range (±5%)	9,000 Hz	6,000 Hz	6,000 Hz	11,000 Hz
Operating Temperature Range	-95 to +500 °F (-71 to +260 °C)			
Typical Applications	High temperature vibration measurements for product testing, structural testing, vibration control, and package drop testing			



Model Number	**2221F**	**7703A-100**	**7703A-50**	**7703A-200**
Sensitivity	10 pC/g	100 pC/g	300 pC/g	200 pC/g
Measurement Range	2,000 g pk	500 g pk	2,000 g pk	850 g pk
Frequency Range (±5%)	10,000 Hz	5,000 Hz	6,000 Hz	4,000 Hz
Operating Temperature Range	-67 to +500 °F (-55 to +260 °C)	-67 to +550 °F (-55 to +288 °C)		
Typical Applications	High temperature vibration measurements on small structures and objects in extreme environmental conditions	High temperature vibration measurements in radiation environments up to 10^8 rads		



HIGH TEMPERATURE, TOP EXIT CONNECTOR CHARGE ACCELEROMETERS				
Model Number	**357B04**	**357B22**	**7704A-100**	**7704A-50**
Sensitivity (±15 %)	10 pC/g	30 pC/g	100 pC/g	50 pC/g
Measurement Range	±2,000 g pk	±1,500 g pk	1,000 g pk	2,000 g pk
Frequency Range (±5%)	9,000 Hz	6,000 Hz	6,000 Hz	5,000 Hz
Operating Temperature Range	-95 to +500 °F (-71 to +260 °C)		-67 to +550 °F (-55 to +288 °C)	
Typical Applications	High temperature vibration measurements for product testing, structural testing, vibration control, and package drop testing		High temperature vibration measurements in radiation environments up to 10^8 rads	



TRIAXIAL CHARGE ACCELEROMETERS			
Model Number	**356A70**	**356A71**	**2228C**
Sensitivity (±15 %)	2.7 pC/g	10 pC/g	2.8 pC/g
Measurement Range	±500 g pk	±500 g pk	2,000 g pk
Frequency Range (±5%)	5,000 Hz	5,000 Hz	4,000 Hz
Operating Temperature Range	-95 to +490 °F (-71 to +254 °C)		-67 to +350 °F (-55 to +177 °C)
Typical Applications	Vibration measurements for modal analysis, micro machining, motors and pumps, and vibration isolation		



MINIATURE CHARGE ACCELEROMETERS			
Model Number	**357B11**	**2220E**	**7240C**
Sensitivity (±15 %)	3.0 pC/g	3 pC/g	3 pC/g
Measurement Range	±2,300 g pk	5,000 g pk	5,000 g pk
Frequency Range (±5%)	12,000 Hz	10,000 Hz	5,000 Hz
Operating Temperature Range	-95 to +500 °F (-71 to +260 °C)	-67 to +500 °F (-55 to +260 °C)	-67 to +350 °F (-55 to +177 °C)
Typical Applications	Vibration measurements for small objects, micro machining, motors and pumps, and vibration isolation		



Model Number	**2226C**	**2222C**	**357A07**
Sensitivity	2.8 pC/g	1.4 pC/g	1.7 pC/g
Measurement Range	2,000 g pk	2,000 g pk	±2,000 g pk
Frequency Range (±5%)	5,000 Hz	8,000 Hz	15,000 Hz
Operating Temperature Range	-67 to +350 °F (-55 to +177 °C)	-67 to +350 °F (-55 to +177 °C)	-100 to +500 °F (-73 to +260 °C)
Typical Applications	Vibration measurements for small objects, micro machining, motors and pumps, and vibration isolation		

CHARGE ACCELEROMETERS

HIGH TEMPERATURE, DIFFERENTIAL CHARGE ACCELEROMETERS			
Model Number	**6222S-20A**	**6222S-50A**	**6222S-100A**
Sensitivity (±15 %)	20 pC/g	50 pC/g	100 pC/g
Measurement Range	2,000 g pk	1,000 g pk	500 g pk
Frequency Range (±5%)	9,000 Hz	6,000 Hz	6,000 Hz
Operating Temperature Range	-65 to +500 °F (-54 to +260 °C)		
Typical Applications	Vibration measurement of gas turbine engines used in aircraft and industrial applications		




VERY HIGH TEMPERATURE, SINGLE ENDED, RADIATION HARDENED CHARGE ACCELEROMETERS				
Model Number	**357B61**	**357B69**	**357A63**	**EX356A73**
Sensitivity	10 pC/g (±10%)	3.5 pC/g (±20 %)	0.53 pC/g (±10%)	3.1 (±10%)
Measurement Range	±1,000 g pk	±500 g pk	±5000 g pk	±500 g pk
Frequency Range	5,000 Hz (±5%)	6,000 Hz (±5 %)	10,000 Hz (±10%)	4,000 Hz (±5%)
Operating Temperature Range	-65 to +900 °F (-54 to +482 °C)			
Typical Applications	Engine compartment studies, exhaust component vibration tests, steam turbine testing, and engine vibration analysis			



VERY HIGH TEMPERATURE, DIFFERENTIAL, RADIATION HARDENED CHARGE ACCELEROMETERS			
Model Number	**EX357C71**	**EX357C72**	**EX357C73**
Sensitivity (±5 %)	10 pC/g	50 pC/g	100 pC/g
Measurement Range	±1,000 g pk	±500 g pk	±300 g pk
Frequency Range (±5%)	4,000 Hz	2,500 Hz	2,000 Hz
Operating Temperature Range	-65 to +900 °F (-54 to +482 °C)		
Typical Applications	Engine compartment studies, exhaust component vibration tests, steam turbine testing, and engine vibration analysis		

EXTREME TEMPERATURE, SINGLE ENDED, RADIATION HARDENED CHARGE ACCELEROMETERS					
Model Number	**EX357E90**	**EX357E91**	**EX357E92**	**EX357E93**	**357A64**
Sensitivity (±10%)	5 pC/g	5 pC/g	2.3 pC/g	2.3 pC/g	1.15 pC/g
Measurement Range	±1,000 g pk	±1,000 g pk	±1,000 g pk	±1,000 g pk	±1,000 g pk
Frequency Range (±5%)	3,000 Hz	3,000 Hz	3,000 Hz	3,000 Hz	10,000 Hz
Operating Temperature Range	-67 to 1200 °F (-55 to 649 °C)				
Typical Applications	Ultra-high temperature measurements for engine compartment studies, exhaust component vibration tests, steam turbine testing and engine vibration analysis				

EXTREME TEMPERATURE, DIFFERENTIAL, RADIATION HARDENED CHARGE ACCELEROMETERS		
Model Number	**EX357A94**	**EX357A95**
Sensitivity (±10%)	5 pC/g	5 pC/g
Measurement Range	±1,000 g pk	±1,000 g pk
Frequency Range (±5%)	3,000 Hz	3,000 Hz
Operating Temperature Range	-67 to 1200 °F (-55 to 649 °C)	
Typical Applications	Aviation / power generation turbine research and development applications	

CRYOGENIC CHARGE ACCELEROMETERS				
Model Number	**2271AM20**	**2271A**	**7722**	**7724**
Sensitivity (±15 %)	11.5 pC/g	11.5 pC/g	3.7 pC/g	3.7 pC/g
Measurement Range	10,000 g pk	10,000 g pk	500 g pk	500 g pk
Frequency Range (±5%)	4,000 Hz	4,000 Hz	4,000 Hz	4,000 Hz
Operating Temperature Range	-452 to +500 °F (-269 to +260 °C)		-452 to +350 °F (-269 to +177 °C)	
Typical Applications	Rocket engine testing, vibroacoustic testing, and vehicle dynamics studies			

PIEZOELECTRIC PRESSURE SENSORS

PCB® designs and manufactures high quality piezoelectric pressure sensors for a variety of testing applications. For dynamic pressure measurements, piezo-type pressure sensors incorporate self-generating quartz, tourmaline, ceramic or UHT-12™ sensing elements. Our commercial line of piezoelectric pressure sensors are used for a variety of dynamic pressure measurements from <0.001 to >100,000 psi. The capability to measure small pressure fluctuations, such as fluid-borne noise at high static levels, is a unique characteristic of piezoelectric pressure sensors. Piezoelectric pressure sensors may be categorized as either charge mode or ICP® voltage mode output. Charge mode sensors are generally used for higher temperature applications above 275 °F (135 °C), and several models fit in the range of -400 °F (-240 °C) to +1400 °F (+760 °C). They generate a high-impedance charge signal (pC/psi) that must be connected to a low-noise cable and charge amplifier. With amplified output ICP® pressure sensors, we incorporate a built-in microelectronic signal conditioners and output a low-impedance voltage signal (mV/psi). These pressure sensors operate from a low-cost, constant-current signal conditioner or may connect directly to a readout instrument with a built-in constant-current source. The sensors are well-suited for continuous operation in dirty environments, underwater, and in-field test applications across long cables. These sensors are ideal for virtually all dynamic pressure applications where sensor temperatures range from -320 to +275 °F (-196 to +135 °C).

BLAST PRESSURE SENSORS							
Model Number	**113B55**	**137B21B**	**137B22B**	**137B23B**	**137B24B**	**138A06**	**138A10**
Sensitivity	10 mV/psi	1 mV/psi	10 mV/psi	100 mV/psi	20 mV/psi	1 mV/psi	0.5 mV/psi
Measurement Range	500 psi for ±5V output	1,000 psi for ±1V output	500 psi for ±5V output 1,000 psi for ±10V output	50 psi for ±5V output	250 psi for ±5V output 500 psi for ±10V output	5000 psi	10,000 for ±5V output
Resonant Frequency	≥500 kHz	≥400 kHz				≥1000 kHz	
Typical Applications	Air blast measurements, peak pressure and total impulse, explosive research and structural loading, shock wave velocity and/or time-of-arrival					Underwater explosives testing	
Notes	Microsecond rise time						

CONFORMAL PRESSURE SENSORS FOR SMALL ARMS TESTING		
Model Number	**117B Small Caliber**	**117B Large Caliber**
Sensitivity	0.110 pC/psi	0.140 pC/psi
Measurement Range	35 kpsi	60 kpsi
Resonant Frequency	> 300 kHz	
Typical Applications	Production testing of ammunition in accordance with the SAAMI standard	
Notes	Contact factory for proper model number to match the caliber of ammunition under test	

BALLISTICS AND GUN PRESSURE SENSORS			
Model Number	**118A07**	**119C12**	**109D12**
Sensitivity	0.28 pC/psi	0.25 pC/psi	0.07 mV/psi
Measurement Range	15 kpsi	100 kpsi	
Resonant Frequency	≥175 kHz	≥400 kHz	
Typical Applications	Shotgun shell pressure measurement	Gun chamber pressure measurements	
Notes	Increased rounds capability for SAAMI standard test method	Case mouth pressure measurement	

ACOUSTIC PRESSURE SENSORS			
Model Number	**106B**	**106B50**	**106B52**
Sensitivity	300 mV/psi	500 mV/psi	5000 mV/psi
Measurement Range	8.3 psi for ±2.5V output	5 psi for ±2.5V output	1 psi for ±5V output
Resonant Frequency	≥60 kHz	≥40 kHz	
Typical Applications	Acoustic measurements		
Notes	Highly sensitive, acceleration-compensated for intense acoustic phenomena		

GENERAL PURPOSE HIGH FREQUENCY PRESSURE SENSORS							
Model Number	**102B**	**102B03**	**102B04**	**102A05**	**102B06**	**112A21**	**112A22**
Sensitivity	1 mV/psi	0.5 mV/psi	5 mV/psi	50 mV/psi	10 mV/psi	50 mV/psi	100 mV/psi
Measurement Range	5,000 psi for ±5V output	10,000 psi for ±5V output	1,000 psi for ±5V output	100 psi for ±5V output	500 psi for ±5V output 1,000 psi for ±10V output	100 psi f or ±5V output 200 psi for ±10V output	50 psi for ±5V output
Resonant Frequency	≥500 kHz					≥250 kHz	
Typical Applications	Shock tubes and closed bombs, time-of-arrival measurements, explosion, blast, and shock wave measurements					Turbulence, noise, sound, and pulsations, especially in adverse environments in fluids and wind tunnel testing	

Model Number	**113B21**	**113B22**	**113B23**	**113B24**	**113B26**	**113B28**
Sensitivity	25 mV/psi	1 mV/psi	0.5 mV/psi	5 mV/psi	10 mV/psi	100 mV/psi
Measurement Range	200 psi for ±5V output	5,000 psi for ±5V output	10,000 psi for ±5V output	1,000 psi for ±5V output	500 psi for ±5V output	50 psi for ±5V output
Resonant Frequency	≥500 kHz					
Typical Applications	Shock tubes and closed bombs, time-of-arrival measurements, explosion, blast, and shock wave measurements					

PIEZOELECTRIC PRESSURE SENSORS

SPECIALTY CRYOGENIC PRESSURE SENSORS				
Model Number	**102B10**	**102B11**	**102B13**	**102B14**
Sensitivity	50 mV/psi	5 mV/psi	0.5 mV/psi	1 mV/psi
Measurement Range	100 psi for ±5V output	1,000 psi for ±5V output	10,000 psi for ±5V output	5,000 psi for ±5V output
Resonant Frequency	≥250 kHz			
Temperature Range	-400 to +212 °F (-240 to +100 °C)			
Typical Applications	Cryogenic pumps, cryogenic fuel systems, and rocket motor combustion instability			
Notes	Ideal for liquid nitrogen, oxygen, and methane			




SPECIALTY HIGH TEMPERATURE PRESSURE SENSORS				
Model Number	**176A02**	**176A03**	**176A07**	**176M42A**
Sensitivity	6 pC/psi	16 pC/psi	7 pC/psi	15 pC/psi
Measurement Range	725 psi	290 psi	725 psi	2,000 psi
Resonant Frequency	≥100 kHz	≥50 kHz	≥100 kHz	≥50 kHz
Temperature Range	-94 to 1200 °F (-70 to 650 °C)			-94 to 1400 °F
Typical Applications	For power generation applications and on-turbine combustion instability monitoring			
Notes	Features UHT-12™ crystal technology sealed in a hermetic package for long-term reliability			

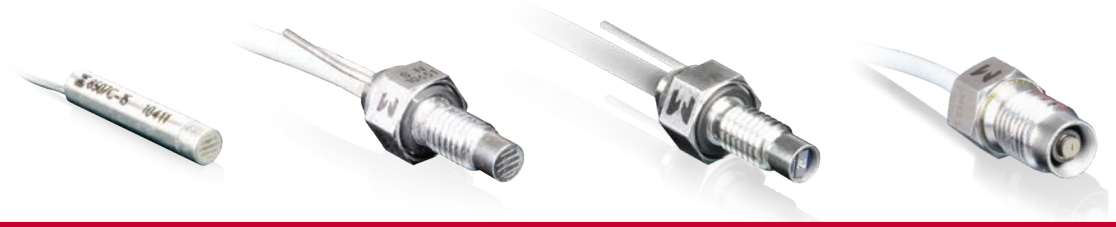




Model Number	**176A31**	**176A33**	**116B**	**112B05**	**112A06**
Sensitivity	6 pC/psi			1.1 mV/psi	2.8 pC/psi
Measurement Range	3,000 psi		100 psi	5,000 psi	5,000 psi
Resonant Frequency	≥100 kHz		≥55 kHz	≥200 kHz	≥200 kHz
Temperature Range	-94 to 1400 °F		-400 to 650 °F	-400 to +500 °F	-400 to +662 °F
Typical Applications	Rocket motor, combustion dynamics, gas turbines, and thermoacoustics		Compression, combustion, explosion, pulsation, actuation, cavitation, fluid, blast, turbulence and sound pressures	Cryogenic pumps, cryogenic fuel systems, and combustion instability of rocket motors	
Notes	Features UHT-12™ crystal technology sealed in a hermetic package for long-term reliability		Acceleration compensated to minimize vibration sensitivity	Cryogenic, high temperature, and acceleration compensation	

PIEZORESISTIVE PRESSURE SENSORS

Endevco miniature piezoresistive pressure sensors measure both dynamic and static pressure in process control applications, blast testing, automotive airbag testing, rocket motor analysis, jet engine inlet pressure measurements, transmission testing and hydraulics measurements. A four-arm strain gage bridge MEMS sensing element, implanted into a sculpted diaphragm, offers wideband frequency response with exceptional sensitivity for improved resolution, high resonance frequency, exceptional linearity and hysteresis performance.



PRESSURE TRANSDUCERS				
Model Number	**8507C**	**8510B**	**8510C**	**8511A**
Description	Ultra-miniature (0.092" diameter), gage, adhesive mount	High sensitivity, gage, 10-32 thread	High resonance, gage, 10-32 thread	High pressure, gage, 3/8" thread
Full Scale Pressure (psig)	1 / 2 / 5 / 15	1 / 2 / 5 / 200 / 500 / 2000	15 / 50 / 100	5000 / 10,000 / 20,000
Sensitivity (mV/psi)	200 / 100 / 60 / 20	200 / 100 / 60 / 1.5 / 0.6 / 0.15	15 / 4.5 / 2.25	0.1 / 0.05 / 0.025
Resonance Frequency (kHz)	55 / 70 / 85 / 130	55 / 70 / 85 / 320 / 500 / 900	180 / 320 / 500	Greater than 1000
Non Linearity (typ) %FSO	1.0 / 1.0 / 0.5 / 0.2	1.0 / 1.0 / 0.5 / 0.25 / 0.25 / 0.25	0.15 / 0.1 / 0.1	1.2 / 2.5 / 2.5
Typical Applications	Wind tunnel scale models and pressure probes	Aerospace, automotive and industrial measurements requiring small size, high sensitivity, and wideband frequency response		Studies of structural loading by shock waves resulting from explosive blasts, pulsations in hydraulic and combustion systems, such as airbag testing

Model Number	**8515C**	**8530B**	**8530C**
Description	Low profile (0.03"), absolute, adhesive mount	High sensitivity, absolute, 10-32 thread	High resonance, absolute, 10-32 thread
Full Scale Pressure (psig)	15 / 50	200 / 500 / 1000 / 2000	15 / 50 / 100
Sensitivity (mV/psi)	13.3 / 4.0	1.5 / 0.6 / 0.3 / 0.3	15 / 4.5 / 2.25
Resonance Frequency (kHz)	180 / 320	750 / 1000 / >1000 / >1000	180 / 320 / 500
Non Linearity (typ) %FSO	0.2	0.2	0.15 / 0.1 / 0.1
Typical Applications	Small-scale models in wind tunnel tests, as well as on aerodynamic surfaces during flight tests and blast testing on anthropomorphic test dummies	Aerospace, automotive and industrial measurements requiring small size, high sensitivity, and wideband frequency response	

VARIABLE CAPACITANCE ACCELEROMETERS

Variable capacitance (VC) accelerometers are DC response sensors for measuring low frequency vibration, motion (constant acceleration) and tilt. With rugged construction and internal electronics, these sensors provide a high-level, low-impedance output which is stable over the wide operating temperature range. While designed for low-g measurement, they can withstand very high-g shocks. These accelerometers are suitable for trajectory monitoring, flutter testing, automotive ride quality and vehicle dynamics measurements.

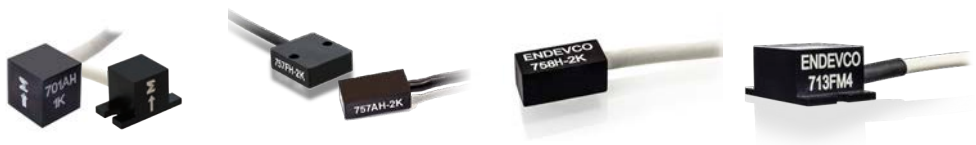
VARIABLE CAPACITANCE ACCELEROMETERS					
Model Number	**3711F**	**3713F**	**3741F**	**3743G**	**7290G**
Description	Single-ended variable capacitance accelerometer	Single-ended triaxial variable capacitance accelerometer	Differential variable capacitance accelerometer	Differential triaxial variable capacitance accelerometer	Differential or single-ended variable capacitance accelerometer
Linear Range (g)	±2 / ±10 / ±30 / ±50 / ±100 / ±200		±2 / ±5 / ±10 / ±30 / ±50 / ±100 / ±200		±2 / ±5 / ±10 / ±30 ±50 / ±100 / ±200
Sensitivity (mV/g typical)	675 / 135 / 45 / 27 / 13.5 / 6.75		1350 / 540 / 270 / 90 / 54 / 27 / 13.5		1000 / 400 / 200 / 66 40 / 20 / 10
Frequency Response (±5%, Hz)	0-250 / 0-1000 / 0-1500 / 0-1500 / 0-1500 / 0-1500		0-250 / 0-1000 / 0-1000 / 0-1500 / 0-1500 / 0-1500 / 0-1500		0-15 / 0-30 / 0-500 / 0-1000 / 0-2000 / 0-2000 / 0-2000
Shock Limit (g)	5,000				5,000 (2, 5, 10g) 10,000 (30, 50, 100 & 200)
Typical Applications	Aircraft flight testing of flutter/buffeting and landing gear; simulated environmental testing with shakers and centrifuges; automotive testing of suspension, shock absorption, and damping; vehicle driveability, ride quality and handling; brake and steering development; and road load data acquisition (RLDA).				

INERTIAL SENSORS

INERTIAL SENSORS			
Model Number	**7310A**	**7330**	**7360A**
Description	Angular rate sensor	Triaxial angular rate sensor	Six degrees of freedom (6DoF) sensor
Linear Range	±100 / ±500 / ±1,500 / ±6,000 / ±8,000 / ±12,000 / ±18,000 deg/sec		Accelerometers: ±2 / ±10 / ±50 / ±200 / ±500 g Angular rate sensors: ±100 / ±500 / ±1,500 / ±8,000 / ±12,000 ±18,000 deg/sec
Sensitivity	20 / 4 / 1.333 / 0.333 / 0.25 / 0.167 / 0.111 mV/deg/sec		Accelerometers: 1000 / 200/ 40 / 10 / 4 mV/g Angular rate sensors: 20 / 4 / 1.333 / 0.25 / 0.167 / 0.111 mV/deg/sec
Frequency Response	0-1000 / 0-1000 / 0-1000 / 0-1000 / 0-1000 / 0-2000 / 0-2000 +1dB/-3dB Hz		Accelerometers: 0-300 / 0-1500 / 0-1800 0-1800 / 0-1800 ±1dB Hz Angular rate sensors: 0-1000 / 0-1000 / 0-1000 / 0-1000 0-2000 / 0-2000 +1dB/-3dB Hz
Shock Limit (g)	5,000		
Typical Applications	Automotive safety and ATD testing, and other applications requiring accurate measurement of rotational velocity	Automotive and aerospace testing requiring pitch, roll and yaw measurement, automotive roll-over ATD head, chest and leg positions	Vehicle dynamics, aircraft flight testing, spacecraft and satellite, missile testing, and automotive testing

PIEZORESISTIVE ACCELEROMETERS

PIEZORESISTIVE ACCELEROMETERS					
Model Number	**7264B**	**7264C**	**726CH**	**7264H**	**7268C**
Description	Undamped accelerometer with center CG location	Undamped accelerometer; SAE J211 / J2570 compliant	High sensitivity accelerometer with multi-mode damping; SAE J211/J2570 compliant	Accelerometer with multi-mode damping; SAE J211/J2570 compliant	Triaxial undamped accelerometer; WorldSID ATD
Linear Range (g)	±500 / ±2000		±2000		±500 / ±2000
Sensitivity (mV/g typical)	0.80 / 0.20		0.30		0.80 / 0.20
Frequency Response (±5%, Hz)	0-3000 / 0-5000		0-5000	0-6000	0-3000 (Z axis); 0-1500 (X & Y axis)
Shock Limit (g pk)	5000 / 10,000		10,000		5,000 / 10,000
Typical Applications	In-dummy crash and shock measurements	Crash and shock measurements	In-dummy crash and shock measurements	Passenger safety testing	In-dummy crash and shock measurements



Model Number	**701AH/701FH**	**757AH/757FH**	**758H**	**713AL/713FL**
Description	Accelerometer with multi-mode damping, rugged Al housing and 28 AWG cable	Small, lightweight accelerometer with multi-mode damping and flexible cable	Accelerometer with multi-mode damping and 28 AWG cable, for multiple mounting surfaces	Triaxial, high sensitivity accelerometer with multi-mode damping
Linear Range (g)	±1000	±2000		
Sensitivity (mV/g typical)	0.30			
Frequency Response (±5%, Hz)	0-4000	0-3000	0-4000	0-3500
Shock Limit (g pk)	10,000			
Typical Applications	Automotive crash, front, rear and side impact, crush zones, sled testing, general shock and impact			

UNDAMPED PIEZORESISTIVE ACCELEROMETERS					
Model Number	**7270A**	**7270AM4**	**7270AM6**	**7270AM7**	**7274A**
Description	High resonance, undamped accelerometer; shock standard	High resonance, undamped accelerometer with stud mount	Rugged accelerometer with mechanical filter and stud mount	Extremely rugged, undamped accelerometer with low noise cable	Triaxial, undamped accelerometer; high resonance
Linear Range (g)	±2000 / ±6000 / ±20,000 / ±60,000 / ±200,000		±2000 / ±6000 / ±20,000 / ±60,000	±2000 / ±6000 / ±20,000 / ±60,000 / ±200,000	±2000 / ±6000 / ±20,000 / ±60,000
Sensitivity (uV/g typical)	100 / 30 / 10 / 3 / 1 (10V excitation)		100 / 30 / 10 / 3 (10V excitation)	100 / 30 / 10 / 3 / 1 (10V excitation)	50 / 15 / 5 / 1.5 (5V excitation)
Frequency Response (±5%, kHz)	0-10 / 0-20 / 0-50 / 0-100/ 0-150		0-10 all ranges	0-10 / 0-20 / 0-50 / 0-100/ 0-150	0-18 / 0-36 / 0-70 / 0-140
Shock Limit (g pk)	10,000 / 18,000 / 60,000 / 180,000 / 200,000		10,000 / 18,000 / 60,000 / 180,000	10,000 / 18,000 / 60,000 / 180,000 / 200,000	10,000 / 18,000 / 60,000 / 180,000
Typical Applications	Shock measurements requiring minimal mass loading, broad frequency response, and minimum zero shift during a shock event				High-acceleration shock measurements in three axes

PIEZORESISTIVE ACCELEROMETERS




DAMPED PIEZORESISTIVE ACCELEROMETERS				
Model Number	**2262B**	**7280A**	**7280AM7**	**7284A**
Description	High sensitivity accelerometer with multi-mode damping; rugged to 10,000 g shocks	Extremely rugged, lightly damped accelerometer with low power consumption	Extremely rugged, lightly damped accelerometer with low noise cable	Triaxial, lightly damped accelerometer with low noise cable
Linear Range (g)	±1,000 / ±2,000 / ±6,000	±2,000 / ±20,000 / ±60,000		
Sensitivity (μV/g)	450 / 300 / 15 (10V excitation)	300 / 16 / 5 (10V excitation)		150 / 8 / 2.5 (5V excitation)
Frequency Response (±5%, kHz)	0-3	0-10 / 0-10 / 0-20		
Shock Limit (g pk)	10,000	10,000 / 80,000 / 240,000		10,000 / 60,000 / 180,000
Typical Applications	Ship shock and military vehicle testing	Mechanical shock, near and far-field pyroshock, high shock data recorders, weapons, and rocket testing		

HIGH SHOCK PIEZORESISTIVE ACCELEROMETERS - SMT			
Model Number	**72**	**74**	**75**
Description	Lightly damped, rugged accelerometer with ESD protection	Triaxial, lightly damped accelerometer; surface mount LCC	Triaxial, undamped accelerometer; surface mount LCC
Linear Range (g)	±2,000 / ±20,000 / ±60,000		±2,000 / ±6,000 / ±20,000 / ±60,000
Sensitivity (µV/g)	150 / 8 / 2.5 (5V excitation)		50 / 15 / 5 / 1.5 (5V excitation)
Frequency Response (kHz)	0-10 / 0-10 / 0-20		0-18 / 0-36 / 0-70 / 0-140
Shock Limit (g)	10,000 / 80,000 / 240,000	10,000 / 60,000 / 180,000	10,000 / 18,000 / 60,000 / 80,000
Typical Applications	Wide range of acceleration, vibration, and shock applications requiring minimum zero shift following a shock event	High-acceleration shock measurements in three axes	

MICROPHONES

The identification of noise sources is necessary to evaluate and reduce noise levels. “Noise” denotes unwanted sound, and hence, the need to negate these sounds and vibrations. Vibrations above and below a specific range may not be detectable to the human ear, but may still require treatments for improved product performance and longevity. When selecting a microphone, an end user must understand what frequency ranges and amplitudes they will be testing.

1/2” (12MM) MICROPHONE AND PREAMPLIFIER SYSTEMS				
Model Number	**378B02**	**378A04**	**378A06**	**378B11**
Response Characteristic	Free-field	Free-field	Free-field	Pressure
Sensitivity	50 mV/Pa	450 mV/Pa	12.6 mV/Pa	50 mV/Pa
Frequency Range	3.75-20,000 Hz	5.0-20,000 Hz	3.15-40,000 Hz	3.75-10,000 Hz
Inherent Noise	15.5 dBA	5.5 dBA	22 dBA	16 dBA
Dynamic Range (3% Distortion)	137 dB	>80 dB	150 dB	137 dB
Typical Applications	Precision sound level measurements, transfer path analysis, environmental noise monitoring, white goods testing in anechoic chambers	Computer desk drives, electric vehicle sound quality, environmental noise monitoring, white goods noise source identification, sound power measurements	Environmental monitoring, railway and horn testing, sonic boom measurements	For use in couplers, HVAC testing, impedance tubes
Notes	Ideal for audible range, low to medium amplitudes	Ideal for extreme low amplitude measurements	Ideal for high frequency measurements	Ideal for extreme low amplitude measurements

Model Number	**378C13**	**378C20**	**378A21**
Response Characteristic	Pressure	Random incidence	Random incidence
Sensitivity	12.6 mV/Pa	50 mV/Pa	12.6 mV/Pa
Frequency Range	3.15-20,000 Hz	3.75-16,000 Hz	4-25,000 Hz
Inherent Noise	22 dBA	16 dBA	22 dBA
Dynamic Range (3% Distortion)	150 dB	137 dB	150 dB
Typical Applications	For use in couplers, HVAC testing, impedance tubes	Cabin measurements, environmental monitoring, room acoustics, tests within reverb chambers	Cabin noise, environmental monitoring, white goods testing, room acoustics
Notes	Ideal for high frequency measurements, high upper dynamic range	Ideal for low sound pressure measurements in reflective environments	Ideal for high frequency measurements in reflective environments

1/4" (6MM) MICROPHONE AND PREAMPLIFIER SYSTEMS					
Model Number	**378C01**	**378A08**	**378C10**	**378A14**	**378A12**
Response Characteristic	Free-field	Free-field	Pressure	Pressure	Pressure
Sensitivity	50 mV/Pa	50 mV/Pa	1 mV/Pa	1 mV/Pa	0.25 mV/Pa
Frequency Range	4-100,000 Hz	12 to 20,000 Hz	5-70,000 Hz	4-70,000 Hz	5-20,000 Hz
Inherent Noise	42 dBA	22 dBA	50 dBA		60 dBA
Dynamic Range (3% Distortion)	165 dB	123 dB	173 dB		182 dB
Typical Applications	Hearing preservation and safety, leak detection, gunshot analysis, acoustic transient measurements	NVH testing, electric automobile testing, component tests, cabin noise, computer fan or disk drive noise, and white goods testing	Precision sound level analysis, hearing preservation and safety, leak detection, gunshot analysis	Impedance tube, flush mounting application, closed couplers, gunshot analysis	Precision sound level measurements, hearing preservation and safety, airbag testing, blast detection and gunshot analysis
Notes	High amplitude, high frequency	multiple sound field usage capability	High amplitude, high frequency	Side vented	Extreme high amplitudes

MICROPHONES

SPECIALTY MICROPHONE AND PREAMPLIFIER SYSTEMS				
Model Number	**EX378B02**	**377B26**	**379A12**	**379A13**
Response Characteristic	Free-field	Pressure	Free-field	Random incidence
Sensitivity	50 mV/Pa	2.15 mV/Pa	50 mV/Pa	
Frequency Range	3.75-20,000 Hz	2-20,000 Hz	3.75-20,000 Hz	
Inherent Noise	15.5 dBA	44 dBA	15.5 dBA	16 dBA
Dynamic Range (3% Distortion)	137 dB	165 dB	137 dB	
Typical Applications	Leak detection and gas tank testing, mine safety, and environmental noise monitoring	Exhaust testing for automotive and aerospace applications, speaker and telephone testing, acoustic impedance measurements, musical instrument analysis, leak detection in industrial settings	Automotive NVH testing and testing in harsh environments	
Notes	Hazardous area approved	High temperature probe	Free-field system with ruggedized grid cap for drop and shock protection	Random incidence system with ruggedized grid cap for drop and shock protection

Model Number	**376A31**	**376A32**	**376A33**
Response Characteristic	Free-field		
Sensitivity	2 mV/Pa	50 mV/Pa	12.6 mV/Pa
Frequency Range	4-100,000 Hz	3.75-20,000 Hz	3.75-40,000 Hz
Inherent Noise	40 dBA	15.5 dBA	22 dBA
Dynamic Range (3% Distortion)	165 dB	137 dB	150 dB
Typical Applications	Loudspeaker design (rub and buzz), accurate modeling, high definition recording		
Notes	Free-field 1/4" 48V Phantom Power, high amplitude	Free-field 1/2" 48V Phantom Power, low noise	Free-field 1/2" 48V Phantom Power, high frequency

ARRAY MICROPHONE AND PREAMPLIFIER SYSTEMS			
Model Number	**130A23**	**130A24**	**130B40**
Response Characteristic	Free-field		Pressure
Sensitivity	14 mV/Pa	10 mV/Pa	8.5 mV/Pa
Frequency Range	20-20,000 Hz (±2 dB)	20-16,000 Hz (±3 dB)	100-3,000 Hz (±1 dB)
Inherent Noise	30 dBA	<30 dBA	<32 dBA
Dynamic Range (3% Distortion)	143 dB	143 dB	150 dB
Typical Applications	Noise identification, near-field acoustic holography, sound pressure mapping, acoustic camera, beamforming, and other large channel count applications		
Notes	Large channel count applications	Water and dust resistant	Low profile, surface microphone

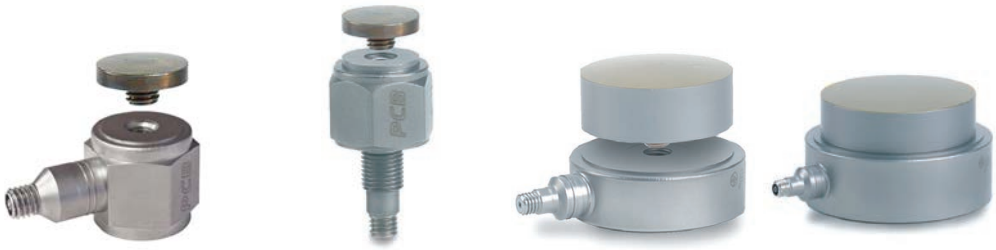
Model Number	**130F20**	**130F21**	**130F22**
Response Characteristic	Free-field	Free-field	Free-field
Sensitivity	45 mV/Pa	45 mV/Pa	45 mV/Pa
Frequency Range	20 to 10,000 Hz (±2 dB)		
Inherent Noise	<26 dBA		
Dynamic Range (3% Distortion)	>122 dB		
Typical Applications	Noise identification, near-field acoustic holography, sound pressure mapping, acoustic camera, beamforming, and other large channel count applications		
Notes	General purpose, BNC connector	General purpose, 10-32 connector	General purpose, SMB connector

FORCE SENSORS

PCB's quartz-based, piezoelectric force and strain sensors are durable measurement devices with exceptional characteristics for measuring high frequency dynamic force and strain events. Typical measurements include dynamic and quasi-static forces encountered during actuation, cutting, crimping, compression, impact, impulse, reaction, and tension.

GENERAL PURPOSE QUARTZ ICP® FORCE SENSORS					
Model Number	**208C01**	**(TLD)208C02**	**(TLD)208C03**	**208C04**	**208C05**
Sensitivity (±15 %)	500 mV/lb	50 mV/lb	10 mV/lb	5 mV/lb	1 mV/lb
Measurement Range (Compression / Tension)	10 lb / 10 lb	100 lb / 100 lb	500 lb / 500 lb	1,000 lb / 500	5,000 lb / 500
Low Frequency Response (-5 %)	0.01 Hz	0.001 Hz	0.0003 Hz		
Upper Frequency Limit	36,000 Hz				
Discharge Time Constant	≥50 sec	≥500 sec	≥2,000 sec		
Typical Applications	Validation of dynamic force in repetitive automation and machine tool processes; drop testing; integration into force plates and material sample testing equipment.				

Model Number	**200C20**	**200C50**
Sensitivity (±15 %)	0.25 mV/lb	0.10 mV/lb
Measurement Range (Compression / Tension)	20,000 lb / 30,000 lb	50,000 lb / 75,000 lb
Low Frequency Response (-5 %)	0.0003 Hz	
Upper Frequency Limit	40,000 Hz	30,000 Hz
Discharge Time Constant	≥2,000 sec	
Typical Applications	Package drop testing and shock testing; applications involving repetitive impacts; crash testing and punch and tablet presses.	



GENERAL PURPOSE QUARTZ CHARGE FORCE SENSORS				
Model Number	**218C**	**218A11**	**210B20**	**210B50**
Sensitivity (±15 %)	18 pC/lb			
Measurement Range (Compression / Tension)	≤5,000 lb / ≤500 lb		≤20,000 lb	≤50,000 lb
Upper Frequency Limit	36,000 Hz		40,000 Hz	30,000 Hz
Temperature Range	-300 to +400 °F (-184 to +204 °C)			
Typical Applications	Multi-purpose force measurements			

FORCE SENSORS

ICP® FORCE RINGS						
Model Number	**201B01**	**201B02**	**201B03**	**201B04**	**201B05**	**201B76**
Sensitivity (±15 %)	500 mV/lb	50 mV/lb	10 mV/lb	5 mV/lb	1 mV/lb	1 mV/lb
Measurement Range (Compression)	10 lb	100 lb	500 lb	1,000 lb	5,000 lb	5,000 lb
Low Frequency Response (-5 %)	0.01 Hz	0.006 Hz	0.002 Hz	0.001 Hz	0.0003 Hz	0.0003 Hz
Upper Frequency Limit	90,000 Hz					
Discharge Time Constant	≥50 sec	≥120 sec	≥400 sec	≥700 sec	≥2,000 sec	≥2,000 sec
Typical Applications	Microsecond duration events common to metal forming equipment (crimp, bend, stake, or stamp), drop testing, and product testing applications					

Model Number	**(M)202B**	**(M)203B**	**(M)204C**	**(M)205C**	**(M)206C**	**(M)207C**
Sensitivity (±15 %)	0.50 mV/lb	0.25 mV/lb	0.12 mV/lb	0.08 mV/lb	0.06 mV/lb	0.05 mV/lb
Measurement Range (Compression)	10,000 lb	20,000 lb	40,000 lb	60,000 lb	80,000 lb	100,000 lb
Low Frequency Response (-5 %)	0.0003 Hz					
Upper Frequency Limit	60,000 Hz		55,000 Hz	50,000 Hz	40,000 Hz	35,000 Hz
Discharge Time Constant	≥2,000 sec					
Typical Applications	Microsecond duration events common to metal forming equipment (crimp, bend, stake, or stamp), drop testing, and product testing applications					

CHARGE FORCE RINGS

Model Number	211B	(M)212B	(M)213B	(M)214B	(M)215B	(M)216B	(M)217B
Sensitivity (±15 %)	18 pC/lb						17 pC/lb
Measurement Range (Compression)	≤5,000 lb	≤10,000 lb	≤20,000 lb	≤40,000 lb	≤60,000 lb	≤80,000 lb	≤100,000 lb
Upper Frequency Limit	90,000 Hz	60,000 Hz		55,000 Hz	50,000 Hz	40,000 Hz	35,000 Hz
Temperature Range	-100 to +400 °F (-73 to +204 °C)						
Typical Applications	Force measurements involving high temperatures, over-extended force ranges or frequencies, or varying pulse widths						

ICP® FORCE LINKS

Model Number	(M)221B01	(M)221B02	(M)221B03	(M)221B04	(M)221B05
Sensitivity (±15 %)	500 mV/lb	50 mV/lb	10 mV/lb	5 mV/lb	1 mV/lb
Measurement Range (Compression / Tension)	10 lb / 10 lb	100 lb / 100 lb	500 lb / 500 lb	1,000 lb / 1,000 lb	5,000 lb / 1,000 lb
Low Frequency Response (-5 %)	0.01 Hz	0.006 Hz	0.002 Hz	0.001 Hz	0.0003 Hz
Upper Frequency Limit	15,000 Hz				
Discharge Time Constant	≥50 sec	≥120 sec	≥400 sec	≥700 sec	≥2,000 sec
Typical Applications	Tensile testing, press monitoring, material testing, machine process monitoring				

Model Number	(M)222B	(M)223B	(M)224C	(M)225C	(M)226C	(M)227C
Sensitivity (±15 %)	0.90 mV/lb	0.42 mV/lb	0.20 mV/lb	0.14 mV/lb	0.11 mV/lb	0.10 mV/lb
Measurement Range (Compression / Tension)	6,000 lb / 2,500 lb	12,000 lb / 4,000 lb	25,000 lb / 8,000 lb	35,000 lb / 12,000 lb	45,000 lb / 20,000 lb	50,000 lb / 30,000 lb
Low Frequency Response (-5 %)	0.0003 Hz					
Upper Frequency Limit	12,000 Hz	10,000 Hz	8,000 Hz	6,000 Hz	5,000 Hz	4,000 Hz
Discharge Time Constant	≥2,000 sec					
Typical Applications	Tension and compression, push rod testing, machinery process monitoring, repetitive operations, press force monitoring, and tensile testing					

FORCE SENSORS

CHARGE FORCE LINKS							
Model Number	**(M)231B**	**(M)232B**	**(M)233B**	**(M)234B**	**(M)235B**	**(M)236B**	**(M)237B**
Sensitivity (±15 %)	18 pc/lb						17 pC/lb
Measurement Range (Compression / Tension)	≤5,000 lb / ≤1,000 lb	≤6,000 lb / ≤2,500 lb	≤12,000 lb / ≤4,000 lb	≤25,000 lb / ≤8,000 lb	≤35,000 lb / ≤12,000 lb	≤45,000 lb / ≤20,000 lb	≤50,000 lb / ≤30,000 lb
Upper Frequency Limit	15,000 Hz	12,000 Hz	10,000 Hz	8,000 Hz	6,000 Hz	5,000 Hz	4,000 Hz
Temperature Range	-100 to +400 °F (-73 to +204 °C)						
Typical Applications	Dynamic tension and compression, impact and repetitive applications, drop testing, materials testing						

MINIATURE ICP® FORCE SENSORS				
Model Number	**(M)209C01**	**(M)209C02**	**(M)209C11**	**(M)209C12**
Sensitivity (±15 %)	2,200 mV/lb			
Measurement Range (Compression / Tension)	2.2 lb / -		2.2 lb / 1.0 lb	
Low Frequency Response (-5 %)	0.5 Hz			
Upper Frequency Limit	100,000 Hz		30,000 Hz	
Discharge Time Constant	≥1 sec	≥10 sec	≥1 sec	≥10 sec
Typical Applications	Dynamic tension and compression, impact and repetitive applications, drop testing, and materials testing			

MINIATURE CHARGE FORCE SENSOR	
Model Number	**219A05**
Sensitivity (±15 %)	20 pC/lb
Measurement Range (Compression)	560 lb
Upper Frequency Limit	140,000 Hz
Temperature Range	-300 to +400 °F (-184 to +204 °C)
Typical Applications	Dynamic tension and compression, impact and repetitive applications, drop testing, and materials testing

PENETRATION QUARTZ ICP® FORCE SENSORS				
Model Number	**208A22**	**208A23**	**208A24**	**208A33**
Sensitivity (±15 %)	50 mV/lb	5 mV/lb	1 mV/lb	5 mV/lb
Measurement Range (Compression / Tension)	100 lb / -	1,000 lb / -	2,500 lb / -	1,000 lb / 500 lb
Low Frequency Response (-5 %)	0.003 Hz			
Upper Frequency Limit	18,000 Hz			20,000 Hz
Discharge Time Constant	≥200 sec	≥2,000 sec		

THREE COMPONENT ICP® FORCE RINGS			
Model Number	**260A01**	**260A02**	**260A03**
Sensitivity (±20 %) (Z Axis) (X or Y Axis)	2.5 mV/lb 10 mV/lb		0.25 mV/lb 1.25 mV/lb
Measurement Range (Z Axis) (X or Y Axis)	1,000 lb 500 lb	1,000 lb 1,000 lb	10,000 lb 4,000 lb
Low Frequency Response (-5 %) (Z-Axis) (X or Y Axis)	0.01 Hz 0.001 Hz		
Upper Frequency Limit	90,000 Hz		39,000 Hz
Discharge Time Constant (Z Axis) (X or Y Axis)	≥50 sec ≥500 sec		
Typical Applications	Force limited vibration testing, cutting tool forces, force dynamometer, engine mount analysis, biomechanics, and modal analysis		

FORCE SENSORS



THREE COMPONENT CHARGE FORCE RINGS			
Model Number	**260A11**	**260A12**	**260A13**
Sensitivity (±20 %) (Z Axis) (X or Y Axis)	15 pC/lb 32 pC/lb		
Measurement Range (Z Axis) (X or Y Axis)	1,000 lb 500 lb	1,000 lb 1,000 lb	10,000 lb 4,000 lb
Upper Frequency Limit	90,000 Hz		39,000 Hz
Temperature Range	-100 to +350 °F (-73 to +177 °C)		
Typical Applications	Chassis and other vehicle dynamic measurements, cutting tool forces and tool wear, force limited vibration testing, modal analysis, biomechanics, engine mount analysis, drop testing, and crash testing		



Model Number	**260A31**	**260A32**	**260A33**
Sensitivity (±20 %) (Z Axis) (X or Y Axis)	15 pC/lb 32 pC/lb		
Measurement Range (Z Axis) (X or Y Axis)	1,000 lb 500 lb	1,000 lb 1,000 lb	10,000 lb 4,000 lb
Upper Frequency Limit	90,000 Hz		39,000 Hz
Temperature Range	-100 to +350 °F (-73 to +177 °C)		
Typical Applications	Chassis and other vehicle dynamic measurements, cutting tool forces and tool wear, force limited vibration testing, modal analysis, biomechanics, engine mount analysis, drop testing, and crash testing		
Notes	Reverse polarity options available		



THREE COMPONENT ICP® FORCE LINKS			
Model Number	**(M)261B01**	**(M)261B02**	**(M)261B03**
Sensitivity (±20 %) (Z Axis) (X or Y Axis)	2.5 mV/lb 10 mV/lb	2.5 mV/lb 5 mV/lb	0.25 mV/lb 1.25 mV/lb
Measurement Range (Z Axis) (X or Y Axis)	1,000 lb 500 lb	1,000 lb 1,000 lb	10,000 lb 4,000 lb
Low Frequency Response (-5 %) (Z-Axis) (X or Y Axis)	0.01 Hz 0.001 Hz		
Discharge Time Constant (Z Axis) (X or Y Axis)	≥50 sec ≥500 sec		
Electrical Isolation	≥100,000,000 Ohm		
Typical Applications	Force limited vibration testing, cutting tool forces, force dynamometer, engine mount analysis, biomechanics, and modal analysis		



THREE COMPONENT CHARGE FORCE LINKS			
Model Number	**(M)261B11**	**(M)261B12**	**(M)261B13**
Sensitivity (±20 %) (Z Axis) (X or Y Axis)	15 pC/lb 32 pC/lb		
Measurement Range (Z Axis) (X or Y Axis)	1,000 lb 500 lb	1,000 lb 1,000 lb	10,000 lb 4,000 lb
Temperature Range	-100 to +350 °F (-73 to +177 °C)		
Electrical Isolation	≥100,000,000 Ohm		≥1,000,000,000 Ohm
Typical Applications	Chassis and other vehicle dynamic measurements, cutting tool forces and tool wear, force limited vibration testing, modal analysis, biomechanics, engine mount analysis, drop testing, and crash testing		

SPECIAL PURPOSE INSTRUMENTATION

ICP® IMPEDANCE HEAD FORCE SENSOR	
Model Number	**(TLD)288D01**
Sensitivity (Acceleration) (Force)	100 mV/g 100 mV/lb
Measurement Range (Acceleration) (Force)	±50 g pk ±50 lbf pk
Frequency Range (±5 %) (Acceleration)	1 to 5000 Hz
Typical Applications	Structural testing and modal analysis. 2-channel sensor with 1 force output and 1 acceleration output for use with modal shakers in structural dynamics testing.

ICP® STRAIN SENSORS						
Model Number	**740B02**	**740M04**	**RHM240A01**	**RHM240A02**	**RHM240A03**	**RHM240M40**
Sensitivity	50 mV/με	5 mV/με	100 mV/με	50 mV/με	10 mV/με	10 mV/με
Measurement Range	100 pk με	900 pk με	50 pk με	100 pk με	300 pk με	300 pk με
Frequency Range	0.5 to 100,000 Hz		0.015 Hz	0.004 Hz	0.004 Hz	0.004 Hz
Broadband Resolution	0.6 nε	5.0 nε	0.0001 nε	0.0002 nε	0.001 nε	0.001 nε
Discharge Time Constant	1 to 3 sec		≥35 sec	≥150 sec		
Typical Applications	Automotive fatigue testing		Process monitoring, press force control and monitoring, and composite material testing			

IMPACT / MODAL HAMMERS

ICP® MODAL HAMMERS				
Model Number	**086E80**	**(TLD)086C01**	**(TLD)086C02**	**(TLD)086C03**
Sensitivity	100 mV/lbf	50 mV/lbf		10 mV/lbf
Measurement Range	50 lbf pk	±100 lbf pk		±500 lbf pk
Resonant Frequency	≥100 kHz	≥15 kHz	≥22 kHz	≥22 kHz
Non-Linearity	≤1 %			
Discharge Time Constant	≥100 sec	≥500 sec		≥2,000 sec
Typical Applications	Resonance detection, mode analysis, transfer characteristics, crack and fatigue detection			

Model Number	**(TLD)086C04**	**(TLD)086D05**	**(TLD)086D20**	**(TLD)086D50**
Sensitivity	5 mV/lbf	1 mV/lbf		
Measurement Range	1,000 lbf pk	5,000 lbf pk		
Resonant Frequency	≥22 kHz	≥22 kHz	≥12 kHz	≥5 kHz
Non-Linearity	≤1 %			
Discharge Time Constant	≥2,000 sec		≥1,400 sec	≥2,000 sec
Typical Applications	Resonance detection, mode analysis, transfer characteristics, crack and fatigue detection			

ELECTRONICS




1-4 CHANNEL SIGNAL CONDITIONERS								
Model Number	**482C05**	**482C15**	**482C16**	**482C24**	**482C27**	**482C54/64**	**2775C**	**6634D**
Channels	4						1	
Power	DC powered through AC to DC converter (supplied)							
Sensor Types	ICP®	ICP®, voltage, charge	ICP®, voltage		ICP®, voltage, bridge / differential	ICP®, voltage, charge	IEPE, Charge	Differential PE, PE, ICP®/IEPE, VELCOIL/RCC
Typical Applications	Depending on model, these are compatible with charge output piezoelectric sensors, bridge/differential sensors, ICP® and IEPE, and any voltage input signal							


8 CHANNEL SIGNAL CONDITIONERS					
Model Number	**483C05**	**483C15**	**483C28**	**483C50**	**483C41**
Channels	8				
Power	AC Power				
Sensor Types	ICP®, voltage		ICP®, voltage, bridge / differential	ICP®, voltage	ICP®, voltage, charge
Features	Unity gain	Selectable gain x1, x10, x100, optional filters	Incremental gain x0.1 to x200, auto-zero, Ethernet, optional filters	Incremental gain x0.1 to x200, Ethernet, optional filters	Incremental gain x0.1 to x200, Ethernet, front-panel keypad, optional filters
Typical Applications	Models compatible with charge output piezoelectric sensors, bridge/differential sensors, and any voltage input signal				

REMOTE CHARGE CONVERTERS					
Model Number	**2771C-01**	**2771C-1**	**2771C-5**	**2771C-10**	**2771CM2-1**
Sensitivity	0.1 mV/pC	1 mV/pC	5 mV/pC	10 mV/pC	1 mV/pC
Input Range	50,000 pCpk	5,000 pCpk	1,000 pCpk	500 pCpk	5,000 pCpk
Frequency Range	0.4 Hz		2 Hz		3 Hz - 30 kHz
Output Voltage Range	10 V pk-pk maximum				
Typical Applications	Transforms piezoelectric transducers' high impedance charge output to a low impedance voltage proportional to the charge				For extreme temperature sensors

REMOTE CHARGE CONVERTERS						
Model Number	**422E12**	**422E51**	**422E52**	**422E53**	**422E54**	**422E55**
Sensitivity (±2 %) (Charge Conversion)	10 mV/pC	100 mV/pC	10 mV/pC	1 mV/pC	0.1 mV/pC	0.5 mV/pC
Input Range	±250 pC	±50 pC	±500 pC	±5,000 pC	±50,000 pC	---
Frequency Range	5Hz - 100 kHz	5 Hz - 100 kHz	5Hz - 100 kHz	5 Hz - 50 kHz	5 Hz - 50 kHz	0.5 Hz - 100 kHz
Output Voltage Range	±2.5 V	±5.0 V	±5.0 V	±5.0 V	±5.0 V	±5.0 V
Typical Applications	Condition signals from charge output piezoelectric sensors converting them from high impedance charge signals into low impedance voltage signals					

Model Number	**422E35**	**422E36**	**422E65/A**
Sensitivity (±2 %) (Charge Conversion)	1 mV/pC	10 mV/pC	0.5 mV/pC
Input Range	±2,500 pC	±250 pC	±50 pC
Frequency Range	5Hz - 100 kHz	5Hz - 100 kHz	5 Hz - 35 kHz
Output Voltage Range	±2.5 V	±2.5 V	±5.0 V
Typical Applications	For extreme temperature sensors		Radiation hardened for use in nuclear power generation

DIFFERENTIAL REMOTE CHARGE CONVERTERS					
Model Number	**422M182**	**2777A-02-10**	**2777A-02-15**	**2777A-10-10**	**2777A-10-15**
Sensitivity (±5 %) (Charge Conversion)	4 mV/pC	2 mV/pC		10 mV/pC	
Frequency Range	2 Hz - 55 kHz	10Hz - 10 kHz	15 Hz - 10 kHz	2 Hz - 55 kHz	15 Hz - 10 kHz
Typical Applications	Converts differential charge output sensors to a voltage				
Notes	Ideal for pressure measurement on gas turbine engines for power generation	Acceleration and velocity outputs, typically used for jet engine test stands			

ELECTRONICS





BATTERY OPERATED / DC POWERED IEPE SIGNAL CONDITIONERS					
Model Number	**4416C**	**485B36**	**480C02**	**480E09**	**480B21**
Channels	1	2	1		3
Power	Rechargeable internal battery	DC power	Internal battery		
Sensor Types	ICP®	ICP®	ICP®	ICP®	ICP®
Features	Gain x1, x10, x100, low pass filter, status indicator	USB-powered, unity gain	Unity gain, status indicator	Gain x1, x10, x100, status indicator	Gain x1, x10, x100, status indicator
Typical Applications	Supplies power to IEPE/ICP® transducers from a constant current source				


MEMS SIGNAL CONDITIONERS		
Model Number	**4418**	**478B05**
Channels	1	3
Power	Rechargeable internal battery	DC power
Sensor Types	MEMS and capacitive sensors	
Features	Gain x1, x10, x100, low pass filter, status indicator, ZMO adjustment	DC offset adjust, status indicator
Typical Applications	Supplies power to MEMS and capacitive sensors	


SENSOR SIMULATORS		
Model Number	**401B04**	**4830B**
Power	---	Rechargeable internal battery
Sensor Types	ICP®	Simulates ICP®, voltage, PE, and differential PE
Features	Accepts test signals from a voltage function generator	Front keypad control, programmable profiles, tach output
Typical Applications	Sensor simulator for signal conditioner testing	

HANDHELD SHAKER	
Model Number	**394C06**
Acceleration Output (±3 %)	1.00 g rms
Velocity Output	0.39 in/sec rms
Operating Frequency (±1 %)	159.2 Hz
Maximum Load	7.4 oz
Typical Applications	Verifies accelerometer and vibration system performance

CABLES & CONNECTORS

GENERAL PURPOSE COAX / TWISTED PAIR CABLES					
Model Number	**018G10**	**002P10**	**018C10**	**3024**	**3024M1**
Sensor Connector	5-44 Plug	5-44 Plug	5-44 Plug	10-32 Plug	10-32 Plug
DAQ Connector	10-32 Plug	BNC Plug	BNC Plug	Pigtails	Pigtails
Jacket Material	PVC / Black	FEP / White	PVC / Black	TFE / Red & Black	FEP / White
Temperature Range	-22 to 221 °F (-30 to 105 °C)	-85 to 329 °F (-65 to 165 °C)	-22 to 221 °F (-30 to 105 °C)	-300 to 350 °F (-184 to 176 °C)	-300 to 350 °F (-184 to 176 °C)

Model Number	**002A10**	**002C10**	**002B03**	**002T10**	**012A10**	**024R10**
Sensor Connector	10-32 Plug	10-32 Plug	10-32 Plug	BNC Plug	BNC Plug	5/8-24 2-socket Plug
DAQ Connector	10-32 Plug	BNC Plug	BNC Jack	BNC Plug	BNC Plug	BNC Plug
Jacket Material	FEP / White	FEP / White	FEP / White	FEP / White	PVC / Black	Polyurethane / Black
Temperature Range	-130 to 400 °F (-90 to 204 °C)	-85 to 329 °F (-65 to 165 °C)	-85 to 329 °F (-65 to 165 °C)	-85 to 329 °F (-65 to 165 °C)	-40 to 176 °F (-40 to 80 °C)	-58 to 250 °F (-50 to 121 °C)

LOW NOISE COAX / TWISTED PAIR CABLES						
Model Number	**3093M10**	**030A10**	**030C10**	**003G10**	**003P10**	**3091F**
Sensor Connector	1-64 Jack	3-56 Plug	3-56 Plug	5-44 Plug	5-44 Plug	6-40 Plug
DAQ Connector	10-32 Jack	10-32 Plug	BNC Plug	10-32 Plug	BNC Plug	10-32 Plug
Jacket Material	TFE / Red	FEP / Blue	FEP / Blue	TFE / Blue	TFE / Blue	TFE / Red
Temperature Range	-425 to 350 °F (-254 to 177 °C)	-130 to 500 °F (-90 to 260 °C)	-85 to 329 °F (-65 to 165 °C)	-320 to 500 °F (-196 to 260 °C)	-85 to 329 °F (-65 to +165 °C)	-300 to 500 °F (-184 to 260 °C)

CABLES & CONNECTORS

LOW NOISE COAX / TWISTED PAIR CABLES (Continued)						
Model Number	**030B10**	**003R10**	**3053V**	**3053VM1**	**3090CM6**	**003A10**
Sensor Connector	M3 Plug	M3 Plug	M3 Plug	M3 Plug	10-32 Plug	10-32 Plug
DAQ Connector	10-32 Plug	10-32 Plug	10-32 Plug	BNC Plug	Pigtail	10-32 Plug
Jacket Material	FEP / Blue	TFE / Blue	PFA / Red	PFA / Red	PTFE / Red	TFE / Blue
Temperature Range	-76 to 500 °F (-60 to 260 °C)	-76 to 500 °F (-60 to 260 °C)	-425 to 500 °F (-254 to 260 °C)	-67 to 392 °F (-55 to 200 °C)	-452 to 500 °F (-269 to 260 °C)	-320 to 500 °F (-196 to 260 °C)

Model Number	**3090C**	**3060D**	**3096**	**003C10**	**3090CM12**	**003B03**
Sensor Connector	10-32 Plug	10-32 Plug	10-32 Plug, Hex	10-32 Plug	10-32 Plug	10-32 Plug
DAQ Connector	10-32 Plug	10-32 Plug	10-32 Plug, Hex	BNC Plug	BNC Plug	BNC Jack
Jacket Material	PTFE / Red	Silicone / Red	PTFE / Red	TFE / Blue	PTFE / Red	TFE / Blue
Temperature Range	-452 to 500 °F (-269 to 260 °C)	-425 to 500 °F (-254 to 260 °C)	-67 to 500 °F (-55 to 260 °C)	-85 to 329 °F (-65 to +165 °C)	-85 to 329 °F (-65 to 165 °C)	-85 to 329 °F (-65 to 165 °C)

Model Number	**098Q10**	**003V10**	**003D10**	**6917B**	**6917D**
Sensor Connector	10-32 Plug, stainless steel	SMB Plug	BNC Plug	7/16-27 UNS-2B Plug	7/16-27 UNS-2B Plug
DAQ Connector	BNC Plug	BNC Plug	BNC Plug	Pigtail	Pigtail
Jacket Material	TFE / Green	TFE / Blue	TFE / Blue	TFE / Red	TFE / White
Temperature Range	-85 to 329 °F (-65 to 165 °C)	-85 to 329 °F (-65 to 165 °C)	-85 to 329 °F (-65 to +165 °C)	-65 to 500 °F (-54 to 260 °C)	-65 to 550 °F (-54 to 288 °C)

HARDLINE CABLE	
Model Number	**023A10**
Sensor Connector	10-32 Plug
DAQ Connector	10-32 Jack
Jacket Material	Stainless steel
Temperature Range	-112 to 900 °F (-80 to 482 °C)

4-CONDUCTOR, GENERAL PURPOSE CABLES				
Model Number	**010F10**	**010G10**	**3027AM3***	**010T10**
Sensor Connector	1/4-28 4-socket Plug	1/4-28 4-socket Plug	1/4-28 4-socket Plug	1/4-28 4-socket Plug
DAQ Connector	(3) 10-32 Plug	(3) BNC Plug	(3) BNC Plug	(3) BNC Plug, grounded
Jacket Material	FEP / Blue	FEP / Blue	PVC / Black	FEP / Blue
Temperature Range	-67 to 230 °F (-55 to 110 °C)	-67 to 230 °F (-55 to 110 °C)	-67 to 185 °F (-55 to 85°C)	-67 to 230 °F (-55 to 110 °C)

Model Number	**010S10**	**010D10**	**3027AVMA14***
Sensor Connector	1/4-28 4-socket Plug	1/4-28 4-socket Plug	1/4-28 4-socket Plug, Hex
DAQ Connector	(3) BNC Plug	1/4-28 4-socket Plug	Pigtails
Jacket Material	FEP / Blue	FEP / Blue	PFA / Red
Temperature Range	-67 to 392 °F (-55 to 200 °C)	-76 to 325 °F (-60 to 162.7 °C)	-148 to 392 °F (-100 to 200 °C)

*Only to be used with Endevco sensors

4-CONDUCTOR, FLEXIBLE CABLES			
Model Number	**019B10**	**3027B**	**036G10**
Sensor Connector	8-36 4-socket Plug	1/4-28 4-socket Plug	1/4-28 4-socket Plug
DAQ Connector	(3) BNC Plug	Pigtails	(3) BNC Plug
Jacket Material	Silicone / Blue	Silicone / White	Silicone / Blue
Temperature Range	-65 to 230 °F (-54 to 110 °C)	-148 to 257 °F (-100 to 125 °C)	-67 to 230 °F (-55 to 110 °C)

IP68 RATED CABLES		
Model Number	**078Wxx**	**034Wxx**
Sensor Connector	IP68 1/4-28 4-socket plug	IP68 1/4-28 4-socket plug
DAQ Connector	(3) BNC Plug	(3) BNC Plug
Jacket Material	Polyurethane / Blue	FEP / Blue
Temperature Range	-58 to +185 °F (-50 to +85 °C)	-67 to +230 °F (-55 to +110 °C)

CABLES & CONNECTORS



4-CONDUCTOR, LOW NOISE CABLES			
Model Number	**034H10**	**034K10**	**034F10**
Sensor Connector	8-36 4-socket Plug	8-36 4-socket Plug	1/4-28 4-socket Plug
DAQ Connector	(3) 10-32 Plug	(3) BNC Plug	(3) 10-32 Plug
Jacket Material	FEP / Blue	FEP / Blue	FEP / Blue
Temperature Range	-65 to 230 °F (-54 to 110 °C)	-65 to 230 °F (-54 to 110 °C)	-67 to 230 °F (-55 to 110 °C)



Model Number	**034G10**	**034T10**	**078G10**
Sensor Connector	1/4-28 4-socket Plug	1/4-28 4-socket Plug	1/4-28 4-socket plug
DAQ Connector	(3) BNC Plug	(3) BNC Plug, Grounded	(3) BNC Plug
Jacket Material	FEP / Blue	FEP / Blue	Polyurethane / Blue
Temperature Range	-67 to 230 °F (-55 to 110 °C)	-67 to 230 °F (-55 to 110 °C)	-58 to 185 °F (-50 to 85 °C)


4-CONDUCTOR, LOW NOISE, FLEXIBLE CABLE	
Model Number	**3915**
Sensor Connector	1/4-28 4-socket Plug
DAQ Connector	Pigtails
Jacket Material	Silicone / White
Temperature Range	-76 to 250 °F (-60 to 121 °C)

4-CONDUCTOR, IP68 RATED CABLES		
Model Number	**034W10**	**078W10**
Sensor Connector	1/4-28 4-socket Plug, IP68	1/4-28 4-socket Plug, IP68
DAQ Connector	(3) BNC Plug	(3) BNC Plug
Jacket Material	FEP / Blue	Polyurethane / Blue
Temperature Range	-67 to 230 °F (-55 to 110 °C)	-58 to 185 °F (-50 to 85 °C)



VC MEMS CABLES				
Model Number	**010P10**	**037P10**	**037G10**	**037A10**
Sensor Connector	1/4-28 4-socket Plug	5/16-24 9-socket Plug	5/16-24 9-socket Plug	5/16-24 9-socket Plug
DAQ Connector	Pigtails for 3711	Pigtails for 3713	Pigtails for 3743	(3) 1/4-28 4-socket Plug
Jacket Material	FEP / Blue	Polyurethane / Black	Polyurethane / Black	Polyurethane / Black
Temperature Range	-76 to 325 °F (-60 to 163 °C)	-31 to 250 °F (-35 to 121 °C)	-31 to 250 °F (-35 to 121 °C)	-31 to 250 °F (-35 to 121 °C)

MODEL AD
Pigtail

MODEL EK
3-56 Coaxial

MODEL AG
5-44 Coaxial

MODEL EB
10-32 Coaxial

MODEL AC
BNC Coaxial

MODEL ET
7/16-27 2-socket

MODEL AM
7/16-27 2-socket

COAX / TWISTED PAIR CONNECTORS / TERMINATION

Model Number	Connector Style	Connection Type	Coupling Method	Temperature Range
AD	Pigtail	N/A	N/A	N/A
BZ	Blunt Cut	N/A	N/A	N/A
EK	3-56 Coaxial	Jack (female socket)	Threaded	-130 to 500 °F (-90 to 260 °C)
AG	5-44 Coaxial	Plug (female contact)	Threaded	-320 to 500 °F (-196 to 260 °C)
AF	5-44 Coaxial, Right Angle	Plug (male pin)	Threaded	-85 to 392 °F (-65 to 200 °C)
CX	5-44 Coaxial	Jack (female socket)	Threaded	-320 to 500 °F (-196 to 260 °C)
EP	M3 Coaxial	Plug (male pin)	Threaded	-76 to 500 °F (-60 to 260 °C)
EB	10-32 Coaxial	Plug (male pin)	Threaded	-320 to 500 °F (-196 to 260 °C)
DM	10-32 Coaxial	Plug (male pin)	Threaded	-65 to 550 °F (-54 to 288 °C)
FZ	10-32 Coaxial	Plug (male pin)	Threaded	-112 to 900 °F (-80 to 482 °C)
RP	10-32 Coaxial	Plug (male pin)	Threaded	-112 to 1,000 °F (-80 to 538 °C)
EJ	10-32 Coaxial, Spring Loaded	Plug (male pin)	Threaded	-320 to 500 °F (-196 to 260 °C)
AH	10-32 Coaxial, Hex	Plug (male pin)	Threaded	-76 to 450 °F (-60 to 232 °C)
AK	10-32 Coaxial, Right Angle	Plug (male pin)	Threaded	-85 to 329 °F (-65 to +165 °C)
QX	10-32 Coaxial, Stainless Steel	Plug (male pin)	Threaded	-320 to 500 °F (-196 to 260 °C)
AW	10-32 Coaxial, Solder	Plug (male pin)	Threaded	-67 to 500 °F (-55 to 260 °C)
PH	10-32 Coaxial	Jack (female socket)	Threaded	-320 to +500 °F (-196 to +260 °C)
GA	10-32 Coaxial	Jack (female socket)	Threaded	-65 to 550 °F (-54 to 288 °C)
CC	10-32 Coaxial	Jack (female socket)	Threaded	-65 to 550 °F (-54 to 288 °C)
JE	1/4-36 SMA Coaxial	Plug (male pin)	Threaded	-40 to 329 °F (-40 to 165 °C)
FW	SMB Coaxial	Plug (female socket)	Push On	-85 to 329 °F (-65 to 165 °C)
FX	SMB Coaxial	Jack (male pin)	Push On	-85 to 329 °F (-65 to 165 °C)
HR	SMB Coaxial, Right Angle	Jack (female socket)	Push On	-67 to 275 °F (-55 to 135 °C)
AC	BNC Coaxial	Plug (male pin)	Bayonet	-85 to 329 °F (-65 to +165 °C)
AB	BNC Coaxial	Jack (female socket)	Bayonet	-85 to 329 °F (-65 to +165 °C)
AT	TNC Coaxial	Plug (male pin)	Threaded	-85 to 329 °F (-65 to 165 °C)
AU	TNC Coaxial	Jack (female socket)	Threaded	-85 to 329 °F (-65 to 165 °C)
ET	7/16-27 UNS-2B 2-socket	Plug (female socket)	Threaded	-76 to 400 °F (-60 to 204 °C)
QY	7/16-27 UNS-2B 2-socket	Plug (female socket)	Threaded	-320 to 500 °F (-196 to 260 °C)
GN	7/16-27 UNS-2B 2-socket	Plug (female socket)	Threaded	-65 to 900 °F (-54 to 482 °C)
GP	7/16-27 UNS-2A 2-pin	Jack (male pin)	Threaded	-65 to 900 °F (-54 to 482 °C)
AE	MIL-C-5015 2-socket	Jack (female socket)	Push On	-67 to 325 °F (-55 to 163 °C)
AM	MIL-C-5015 5/8-24 2-socket	Jack (female socket)	Threaded	-67 to 257 °F (-55 to 125 °C)
AP	MIL-C-5015 5/8-24 2-socket	Plug (female socket)	Threaded	-320 to +257 °F (-196 to +125 °C)
BP	MIL-C-5015 5/8-24 2-socket	Plug (female socket)	Threaded	-320 to +325 °F (-196 to +163 °C)
BR	MIL-C-5015 5/8-24 2-socket	Plug (female socket)	Threaded	-320 to +250 °F (-196 to +121 °C)
BQ	MIL-C-5015 5/8-24 2-socket, Right Angle	Plug (female socket)	Threaded	-320 to +250 °F (-196 to +121 °C)
CE	MIL-C-5015 5/8-24 2-pin	Jack (male pin)	Threaded	-67 to +257 °F (-55 to +125 °C)

CABLES & CONNECTORS

MODEL EH
8-36 4-socket

MODEL AY
1/4-28 4-socket

MODEL JY
10-32 Triple Splice

MODEL JW
BNC Triple Slice

MODEL EN
5/16-24 9-Socket

MODEL PG
Pigtail/BNC for 3713

MODEL LN
8-pin

4-CONDUCTOR CONNECTORS / TERMINATION

Model Number	Connector Style	Connection Type	Coupling Method	Temperature Range
EH	8-36 4-socket	Plug (female socket)	Threaded	-65 to 356 °F (-54 to 180 °C)
HJ	8-36 4-pin	Jack (male pin)	Threaded	-76 to 325 °F (-60 to 163 °C)
AY	1/4-28 4-socket	Plug (female socket)	Threaded	-76 to 325 °F (-60 to 163 °C)
RB	1/4-28 4-socket, IP68	Plug (female socket)	Threaded	-76 to 325 °F (-60 to 163 °C)
RJ	1/4-28 4-socket, 200C	Plug (female socket)	Threaded	-76 to 392 °F (-60 to 200 °C)
QN	1/4-28 4-socket, Hex	Plug (female socket)	Threaded	-76 to 325 °F (-60 to 163 °C)
CA	1/4-28 4-pin	Jack (male pin)	Threaded	-76 to 325 °F (-60 to 163 °C)
JR	Pigtail Triple Splice	Pigtail	N/A	-76 to 325 °F (-60 to 163 °C)
GR	Blunt Cut Triple Splice	Blunt Cut	N/A	-76 to 325 °F (-60 to 163 °C)
JY	10-32 Triple Splice	Plug (male pin)	Threaded	-67 to 230 °F (-55 to 110 °C)
JZ	10-32 Triple Splice	Jack (female socket)	Threaded	-15 to 400 °F (-26 to 204 °C)
LA	10-32 Triple Splice, Spring Loaded	Plug (male pin)	Threaded	-67 to 230 °F (-55 to 110 °C)
NV	10-32 Triple Splice, Grounded	Plug (male pin)	Threaded	-67 to 230 °F (-55 to 110 °C)
LK	SMA Triple Splice	Plug (male pin)	Threaded	-67 to 230 °F (-55 to 110 °C)
LC	SMB Triple Splice	Plug (female socket)	Push On	-67 to 230 °F (-55 to 110 °C)
LD	SMB Triple Splice	Jack (male pin)	Push On	-67 to 230 °F (-55 to 110 °C)
JW	BNC Triple Splice	Plug (male pin)	Bayonet	-67 to 230 °F (-55 to 110 °C)
JX	BNC Triple Splice	Jack (female socket)	Bayonet	-67 to 230 °F (-55 to 110 °C)
NF	BNC Triple Splice, Grounded	Plug (male pin)	Bayonet	-40 to +176 °F (-40 to +80 °C)
JS	1/4-28 4-socket Triple Splice	Plug (female socket)	Threaded	-58 to 221 °F (-50 to 105 °C)

VC MEMS CONNECTORS / TERMINATION

Model Number	Connector Style	Connection Type	Coupling Method	Temperature Range
DZ	Pigtail for 3711/3713	N/A	N/A	N/A
PG	Pigtail/BNC for 3713	Plug (male pin)	Bayonet	-67 to +230 °F (-55 to +110 °C)
SL	Pigtail/BNC for 3713	Plug (male pin)	Bayonet	-67 to +230 °F (-55 to +110 °C)
JJ	Pigtail for 3501, 3741, 3991	N/A	N/A	N/A
NU	Pigtail for 3743	N/A	N/A	N/A
EN	5/16-24 9-socket	Plug (female socket)	Threaded	-31 to 275 °F (-35 to 135 °C)
GJ	5/16-24 9-pin	Jack (male pin)	Threaded	-31 to 275 °F (-35 to 135 °C)
LN	8-pin	mini DIN	Snap-on	-13 to +176 °F (-25 to +80 °C)
LY	8-pin Triple Splice	mini DIN	Snap-on	-13 to +176 °F (-25 to +80 °C)
LT	8-pin for 3711	mini DIN	Snap-on	-13 to +176 °F (-25 to +80 °C)
NN	8-pin Triple Splice for 3713	mini DIN	Snap-on	-13 to +176 °F (-25 to +80 °C)

MODEL 002
General Purpose
Coax

MODEL 005
General Purpose
Coax

MODEL 024
General Purpose
Twisted Pair

MODEL 030
Low Noise
Coax

MODEL 003
Low Noise
Coax

RAW CABLE – GENERAL PURPOSE – COAX

Model Number	Conductor Size	Cable Diameter	Jacket Material / Color	Temperature Range
002	30 awg (7/38)	0.075 in	FEP / White	-130 to +400 °F (-90 to +204 °C)
005	30 awg (7/38)	0.200 in	FEP / Clear	-67 to +275 °F (-55 to +135 °C)
018	28 awg	0.054 in	PVC / Black	-22 to +221 °F (-30 to +105 °C)
012	20 awg	0.193 in	PVC / Black	-40 to +176 °F (-40 to +80 °C)

RAW CABLE – GENERAL PURPOSE – TWISTED PAIR

Model Number	Conductor Size	Cable Diameter	Jacket Material / Color	Temperature Range
035	36 awg (7/44)	0.024 in	PTFE / Red & Black	-67 to 392 °F (-55 to +200 °C)
031	30 awg (7/38)	0.024 in	PTFE / Red & Black	-67 to +392 °F (-55 to +200 °C)
032	30 awg (7/38)	0.085 in	FEP / Clear	-130 to +392 °F (-90 to +200 °C)
024	20 awg (19/32)	0.250 in	Polyurethane / Black	-58 to +250 °F (-50 to +121 °C)
053	18 awg (19/30)	0.154 in	PTFE / Red	-320 to +392 °F (-196 to +200 °C)

RAW CABLE – LOW NOISE – COAX

Model Number	Conductor Size	Cable Diameter	Jacket Material / Color	Temperature Range
030	34 awg (7/42)	0.042 in	FEP / Blue	-130 to +500 °F (-90 to +260 °C)
098	30 awg (7/38)	0.079 in	TFE / Green	-130 to +500 °F (-90 to +260 °C)
003	29 awg	0.079 in	TFE / Blue	-320 to +500 °F (-196 to +260 °C)
006	29 awg	0.20 in	TFE / Clear	-67 to +275 °F (-55 to +135 °C)
038	29 awg	0.079 in	Polyurethane / Blue	-58 to +250 °F (-50 to +121 °C)

RAW CABLE – LOW NOISE – TWISTED PAIR

Model Number	Conductor Size	Cable Diameter	Jacket Material / Color	Temperature Range
045	22 awg (7/30)	0.204 in	PTFE / Red	-130 to +500 °F (-90 to +260 °C)

RAW CABLE – ARMORED – TWISTED PAIR

Model Number	Conductor Size	Cable Diameter	Jacket Material / Color	Temperature Range
048	18 awg (19/30)	0.268 in	Polyurethane / Red	-320 to +392 °F (-196 to +200 °C)

CABLES & CONNECTORS

MODEL 023
Hardline
Coax

MODEL 010
General Purpose
4-conductor

MODEL 019
Flexible
4-conductor

MODEL 030
Raw Cable

MODEL 034
Low Noise
4-conductor

MODEL 037
Multi-conductor

RAW CABLE – HARDLINE – COAX				
Model Number	**Conductor Size**	**Cable Diameter**	**Jacket Material / Color**	**Temperature Range**
023	30 awg	0.059 in	Stainless Steel	-300 to +1200 °F (-184 to +650 °C)
013	26 awg	0.125 in	Stainless Steel	-94 to 1400 °F (-70 to 760 °C)
029	20 awg	0.125 in	Stainless Steel	-67 to +1500 °F (-55 to +816 °C)

RAW CABLE – GENERAL PURPOSE – 4-CONDUCTOR				
Model Number	**Conductor Size**	**Cable Diameter**	**Jacket Material / Color**	**Temperature Range**
068	32 awg (7/40)	0.063 in	FEP / Green	-130 to 392 °F (-90 to 200 °C)
010	30 awg (7/38)	0.1 in	FEP / Blue	-130 to +392 °F (-90 to +200 °C)

RAW CABLE – LOW NOISE – 4-CONDUCTOR				
Model Number	**Conductor Size**	**Cable Diameter**	**Jacket Material / Color**	**Temperature Range**
034	34 awg	0.077 in	FEP / Blue	-130 to +392 °F (-90 to +200 °C)
078	34 awg	0.119 in	Polyurethane / Blue	-58 to +185 °F (-50 to +85 °C)

RAW CABLE – FLEXIBLE – 4-CONDUCTOR				
Model Number	**Conductor Size**	**Cable Diameter**	**Jacket Material / Color**	**Temperature Range**
019	36 awg	0.07 in	Silicone / Blue	-76 to +500 °F (-60 to +260 °C)
036	32 awg (7/40)	0.100 in	Silicone / Blue	-76 to +392 °F (-60 to +200 °C)

RAW CABLE – MULTI-CONDUCTOR				
Model Number	**Sensor Connector**	**Cable Diameter**	**Jacket Material / Color**	**Temperature Range**
037	(10) 28 awg (40/44)	0.154 in	Polyurethane / Black	-58 to +250 °F (-50 to +121 °C)

NOT SEEING THE CABLE YOU NEED?

Contact us! We offer a wide range of additional options, including different cable types and connectors, for both the sensor and DAQ sides. Our team would be happy to recommend a cable tailored to your specific application.

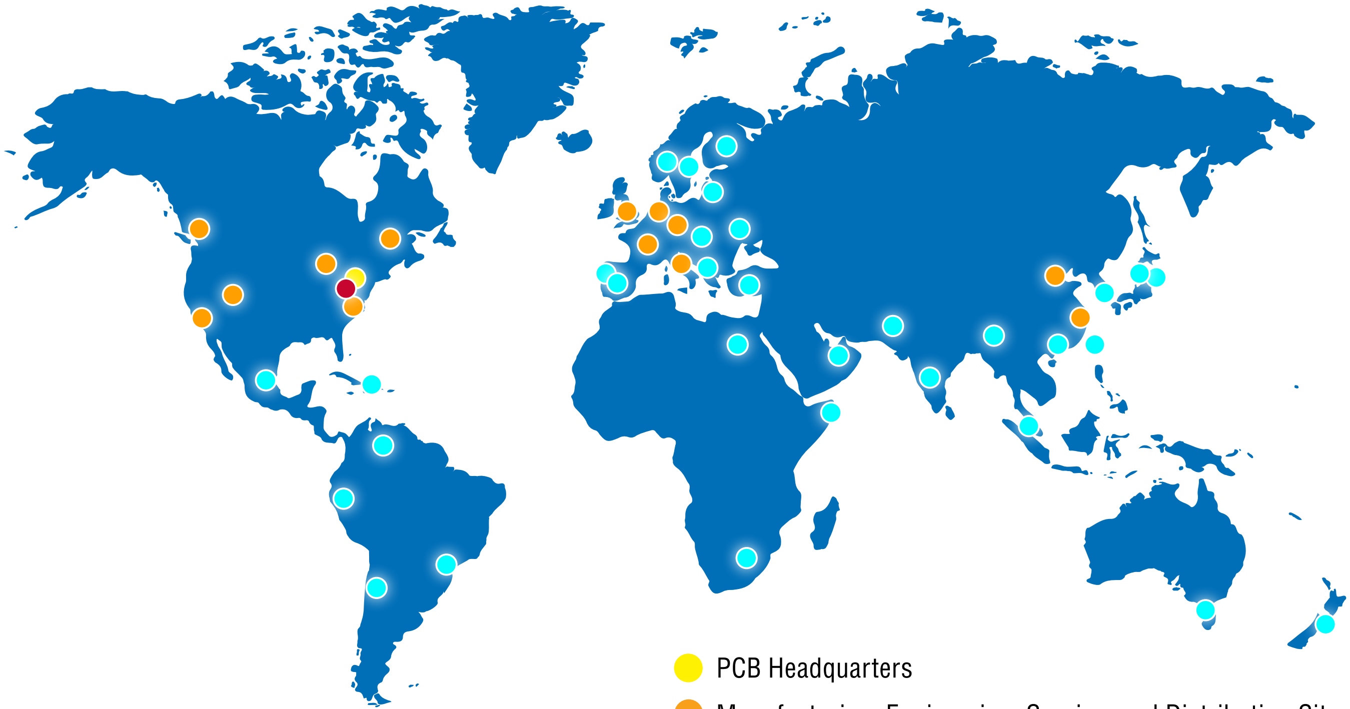
ADAPTERS						
Model Number	**070A54**	**070A03**	**070A02**	**070A08**	**070A95**	**070B09**
Connector A	M4 Jack	10-32 Plug	10-32 Jack	10-32 Jack	SMA Plug	10-32 Plug
Connector B	BNC Plug	BNC Jack	BNC Plug	BNC Jack	BNC Jack	Solder Terminal

COUPLERS				
Model Number	**070A05**	**070A20**	**070A43**	**070A12**
Connector A	10-32 Jack	10-32 Plug, Right Angle	BNC Jack, Right Angle	BNC Jack
Connector B	10-32 Jack	10-32 Jack	BNC Plug	BNC Jack

FEED THRU ADAPTERS			
Model Number	**EJ66**	**070A13**	**080M233**
Connector A	10-32 Jack	BNC Jack	1/4-28 4-pin Jack
Connector B	10-32 Jack	10-32 Jack	1/4-28 4-pin Jack

T CONNECTOR	
Model Number	**070A11**
Connector A	BNC Plug
Connector B	BNC Jack
Connector C	BNC Jack

PCB® LOCATIONS WORLDWIDE



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