ENDEVCO

Dynamic Measurement Short Form Catalog



MEGGITT

We Meet Your Dynamic Measurement Needs

No one else provides as wide a range of dynamic measurement solutions as Endevco. No other company can match our experience, our record for innovation, our vertically-integrated approach, or the breadth of our product line.

We have been the world's leading supplier of vibration, shock, inertial motion and dynamic pressure measurement instrumentation for over 50 years. During that time, our technological leadership has set new performance standards.

All-Encompassing Technology

Our in-house technical capabilities set us apart from other sensor suppliers. Instead of limiting you to a few choices, we provide precisely the right type of sensor for your specific needs.

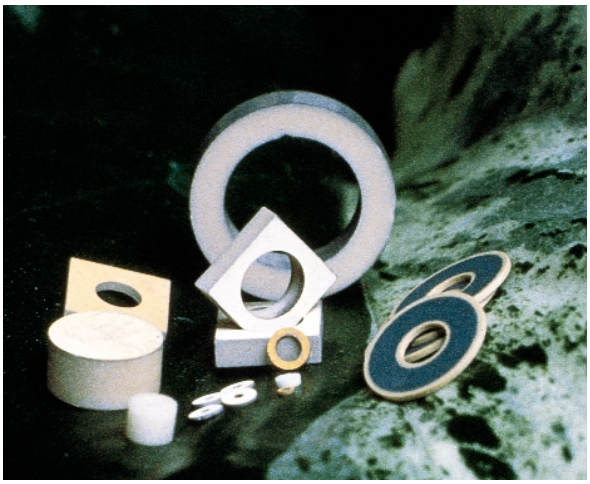
We design and manufacture our own sensing elements that meet the highest quality standards and redefine state of the art in sensor design.

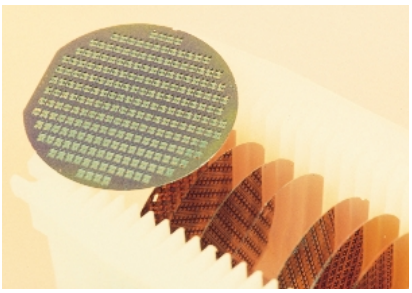
We offer our customers the best possible solution using piezoelectric (PE), piezoresistive (PR) or variable capacitance (VC) sensing technologies.

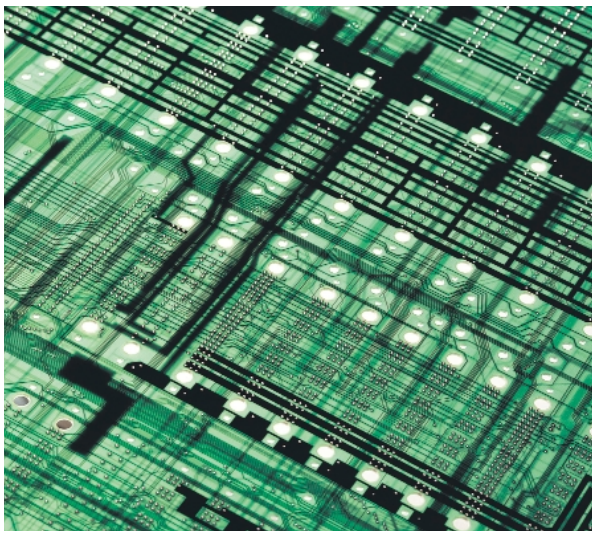
Our PE accelerometers offer wide dynamic range and broad frequency response. These high-impedance, charge output transducers are rugged, self-generating devices that require no external power for operation. Our ISOTRON®, or Internal Electronic PiezoElectric (IEPE) accelerometers, include built-in amplifiers with low impedance output for easy interface. Endevco PE and ISOTRON accelerometers are known for their high signal-to-noise ratio, extremely wide dynamic range, wide temperature operation, and long-term stability.

PR and VC accelerometers offer the advantage of DC response. This allows not only acceleration measurement, but also the derivation of steady state velocity and displacement. PR and VC devices also provide an inherently low output impedance that enables very low frequency, long-duration pulse measurements.

Endevco also supplies PR pressure transducers and high-intensity microphones. Our pressure transducers utilize unique, patented sensing diaphragms and can survive extreme vibration, shock, over-pressure, heat, cold and humidity. Our microphones are ideal for measuring high intensity acoustic noise and very low pressure fluctuations. These rugged, hermetically-sealed devices are insensitive to altitude changes and can be used over a wide range of temperature and environmental conditions.









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A Full Range of Solutions

Endevco is your best choice for a turnkey dynamic measurement solution. Besides offering a vast array of sensors, we also build raw cables and cable assemblies, mounting accessories, electronics, and calibration systems and services.

We make our own transducer cable to guarantee that its quality accesses the full performance of our sensors. Similarly, to ensure the integrity of the interface between the sensor and your system, we design and manufacture a full line of reliable and innovative signal conditioners and amplifiers. These include high-performance manual and/or computer-controlled instruments for such applications as flight test, engine vibration monitoring, jet engine test cells, and many laboratory uses. We also build complete calibration systems and provide a broad range of calibration services to keep your sensor or system running in compliance with the most current industry standards.

Given these unique capabilities, Endevco can offer the right transducer and the right sensing technology for your specific applications. From DC to 150 kHz, from a micro-g to 200 000 g's, we have a product that will perform in your application. In each case, design and manufacturing comply with the highest standards in our modern ISO 9001-certified facility.

Ready To Work for You

Over the past 50 years, Endevco has solved countless dynamic measurement problems for thousands of customers in the aerospace, automotive, aviation, defense, industrial, marine, medical, electronics and laboratory industries. To find out how we can help you, call us soon.

VIBRATION
General Purpose

Endevco has a solution for every budget and application. The breadth of our product line makes it possible to get the output, bandwidth, resolution, operating range and other dynamic characteristics you need at a reasonable price.

There are also many different rugged, yet lightweight sizes and shapes, and a variety of connector and mounting options. Here are a few samples of our economical, high performance accelerometers designed for general purpose shock and vibration measurements.



Photo courtesy of Wyle Laboratories, El Segundo, CA



Model 2226C is a miniature accelerometer offering charge output, light weight (2.8 gm), operation to +350°F (+177°C) and simple adhesive mounting. Low noise, flexible coaxial cable included.



Model 256/256HX are lightweight, hermetically sealed Isotron accelerometers that feature ground isolation. The 256 is designed to be adhesively mounted and the 256HX is for 10-32 stud mounted. Available in 10 or 100 mV/g.



Model 50/50M1, in spite of its low price, offers milli-g resolution, hermetic seal, and is ground-isolated. The unit can be powered with a constant-current source having a supply voltage as low as 12 VDC. Model 50M1 features an integral magnetic mounting base.



Model 2258AM2. A lightweight, triaxial Isotron accelerometer that features replaceable sensor subassemblies and a one output connector. Optional accessories allows the 2258AM2 to be mounted by adhesive, stud, or magnetic mounting adapter. Available in 10 or 100 mV/g.



Model 752A. Low impedance output coupled with excellent signal-to-noise ratio and wide bandwidth make this unit one of the best values in accelerometers today. Hermetic seal ground isolation ensures reliability.



Model 7221A is a rugged unit that provides charge output, operation to +400°F (+204°C) and convenient 360° cable orientation for ease of installation.



Model 750 is an accelerometer with outstanding value. It features a 100 mV/g sensitivity, low noise floor, wide bandwidth, and low price. It is also hermetically sealed, ground-isolated, and is designed to handle harsh environmental conditions.



Model 7593A offers an economical package for measuring ±2 g acceleration with DC response. Amplified output of ±2 VDC in a ready-to-use housing.

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VIBRATION
Lightweight Structures



Endevco is the only source for compact, lightweight accelerometers with wide dynamic range. We make some of the smallest, with and without electronics, whose performance has never been matched. These compact, lightweight devices (one weighs a mere 0.14 gram) minimize the effects of mass loading. All feature adhesive mounting and ground isolation, making them ideal for vibration testing of circuit boards, disk drives, scaled models or small components.

The high impedance piezoelectric types offer higher temperature capability, the ISOTRON® types feature flexible cable to facilitate installation. Whatever your need, be it for single or triaxial measurements, wide bandwidth with high signal-to-noise ratio, or measurements to +350°F, Endevco has the answer.



Model 22, the world's smallest accelerometer, has recently been improved and ruggedized. Features include charge output, operation to +300° F (+149°C), light weight (0.14 gm) and adhesive mounting. Perfect for stress screening on circuit boards and electronic components.



Model 23 is the right choice if you need to make triaxial measurements on small objects up to +300°F (+149°C). Based on the improved model 22, and at only 0.85 gm, it is also the smallest triaxial accelerometer. All three low-noise cables exit from a single surface to allow mounting flexibility.



Model 2222C. An improved industry standard, this unit offers 1.4 pC/g output in a low-profile package. It also features a charge output, operation to +350°F (+177°C), light weight (0.5 gm) and a field-replaceable cable.



ISOTRON®

Model 25A. The latest in miniaturization, the 25A delivers low impedance output and is the world's smallest accelerometer with internal electronics. Its light weight (0.2 gm) and flexible cable make it perfect for testing disk drives, personal communication devices, delicate structures, or in biomedical research. (Model 25B comes with a user-replaceable cable assembly.) Triax block available.



ISOTRON®

Model 2250A-10 combines low impedance output and high S/N ratio in a very small, lightweight (0.4 gm) package complete with integral hybrid signal conditioner. Field replaceable mini-cable comes with 2250A-10; 2250AM1-10 has solder pins.



ISOTRON®

Model 7253B-10 is a triaxial version of the 2250AM1. It provides low impedance output, wide bandwidth and superior S/N for measuring vibration in three orthogonal axes. Replaceable cable assembly.

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VIBRATION
Low Frequency/Low Level

Endevco takes full advantage of piezoelectric, variable capacitance and piezoresistive sensing technologies to meet your low frequency, low "g" vibration testing demands. For low frequency, near static vibration measurements, our silicon-based accelerometers with DC response are the devices of choice. Great for aircraft flight, automotive vehicle dynamics, biomedical motion studies and other applications.

For low level vibration measurements, choose one of our ISOTRON® piezoelectric accelerometers for ruggedness without sacrificing resolution. These lightweight units give you outstanding resolution and sensitivity, DC response and low impedance output. Endevco's low frequency, low "g" accelerometers are ideal for performing modal or structural analysis on large structures such as automobiles and spacecraft, monitoring micro-g motion on vibration tables and in photolithography applications.

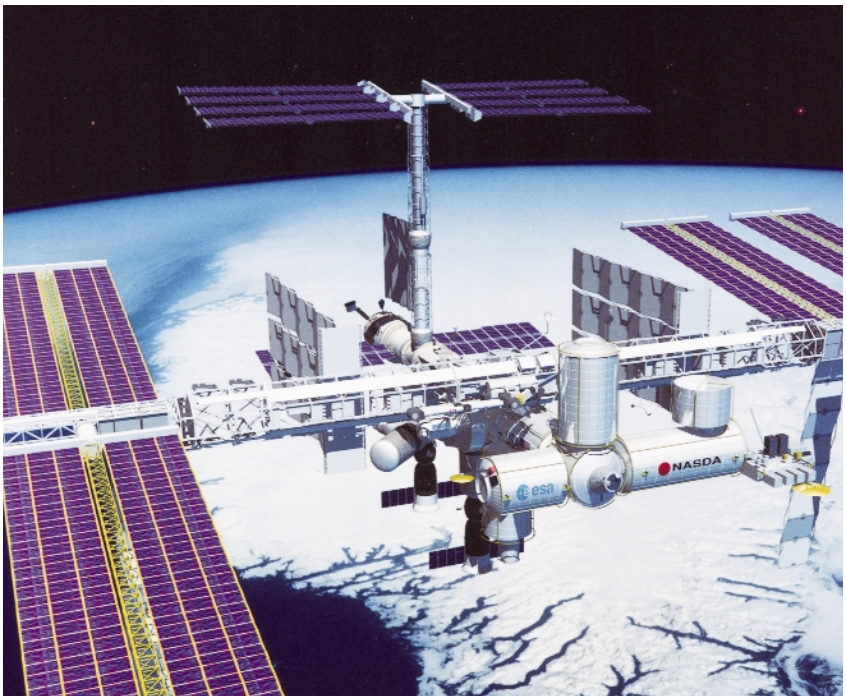
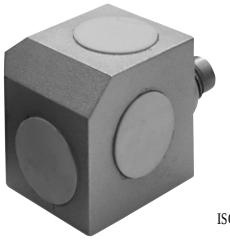


Photo courtesy of Hughes Space and Communications Company, Los Angeles, CA



ISOTRON®

Model 61C. Designed specifically for modal tests, it provides up to 1V/g output and response down to 0.5 Hz. It also features built-in TEDS compatible with IEEE P1451.4 Smart Sensor protocol.



ISOTRON®

Model 63C is the triaxial version of the 61C. It shares the same specifications with the 61C, including built-in IEEE P1451.4 compatible TEDS. The 63C features a outer titanium case and welded construction. A single 4-pin connector is used for all its connections.



ISOTRON®

Model 7752-1000 offers a substantial 1 V/g sensitivity, a frequency response linear down to 0.2 Hz, and has very high resolution. Minimal unit-to-unit phase response deviation makes this unit particularly well-suited for modal studies.



ISOTRON®

Model 7754-1000. This device offers the highest resolution in a small rugged package. Able to detect <1 micro-g at very low frequency, its 1 V/g output is well suited for optical/photolithography applications and transportation studies.



Model 2262A uses Endevco piezoresistive technology and damping to provide frequency response from DC to 1000 Hz. Ranges from 25 to 2000 g, with fully hermetically sealed cases.



Model 7265A and 7265A-HS piezoresistive accelerometers offer a high sensitivity of 5 and 25 mV/g for ranges of 100 and 20 g, respectively. Low mass and small size are key features.

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Model MSA100 Micromachined Servo Accelerometer uses a force rebalancing sensor to achieve ruggedness, dynamic range and low vibration rectification. Ideal choice for measuring inertial motion, tilt or angle.

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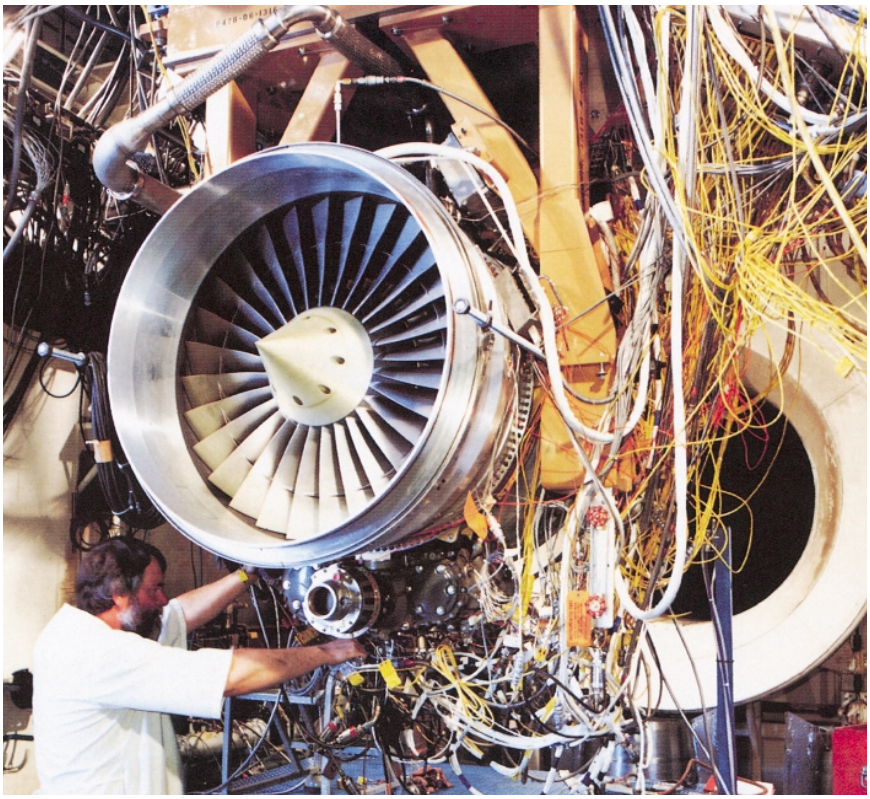


Model 7290A MICROTRON® is for measurement of relatively low level accelerations with full scale ranges from 2 to 150 g's and an output of ±2V. Gas damping and internal over-range stops enable it to withstand high shock and acceleration loads.

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VIBRATION
Extreme Temperature



When the test environment gets too hot or cold for the ordinary accelerometer, Endevco has proven solutions for vibration measurements up to +1400°F (750°C) and down to -452°F (-269°C). Our sensor designs are based on not one, but a wide range of crystal materials in order to optimize performance.

Special mounting and connector configurations, along with Endevco special cable assemblies ensure reliable, dependable results in severe vibration environments like those encountered in jet engine, rocket motor or heat exchanger testing. When the mounting space is limited, a miniature design with center-bolt mounting is available. All Endevco extreme temperature sensors are hermetically sealed to ward off external contamination and ensure stable operation.



Model 2230D. A lightweight (17 gm), high-temperature, triaxial accelerometer is finally available. Operate up to 500°F (260°C), Model 2230D is designed to be adhesively mounted. Perfect for use on engines and exhaust systems.



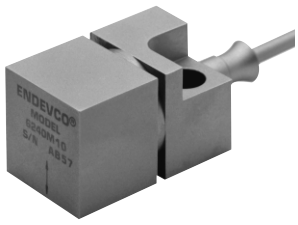
Model 2220D provides charge output for measurements to +500°F (+260°C). Miniature size and light weight (3.1 gm) suit it for vibration measurement on small objects. 360° cable orientation facilitates ease in installation.



Model 2276. This radiation-hardened unit gives you charge output, flat response from -67°F to +900° F(-55°C to +482°C).



Model 2248. This miniature charge output accelerometer, available in a flange or integral stud version (M1), for applications to +900°F (482°C).



Model 6240M10 is the ultimate high-temperature accelerometer which provides charge output to +1400°F (+760°C) and an integral hard-line cable with single-ended output.



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Model 6240C-10 features charge and balanced differential output, and ground isolation, making it a great choice for environments to +1200°F (+649°C) or in high vibration jet engine testing. Rugged 3-hole mounting flange and 2-pin connector.



ISOTRON®

Model 2256AM2. The only low output impedance accelerometer designed specifically for -292°F (-180°C) cryogenic vibration measurement. Special circuit and sensing element design ensure long-term stability.



Models 7722 and 7724 are the ultimate accelerometers for cryogenic applications. These devices withstand repeated thermal shock to -475°F (-269°C). Both offer charge output and require no external power. Model 7724 is ground isolated.

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VIBRATION
Specialty Applications

Vibration measurements are sometimes required under the most unusual circumstances. From nuclear environments to applications involving ultra-high frequency or high electromagnetic fields, specially designed sensors are needed to capture the event with the highest accuracy. Many have turned to Endevco for solutions that no one else can provide. We have many unique solutions on the shelf, and our vibration-measurement engineers have probably helped others solve a problem similar to yours.





Model 12M1A is a miniature high impedance piezoelectric accelerometer developed specifically for OEM applications. It is designed to be mounted as a circuit component for vibration monitoring.

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Models 2273AM1 and 2273AM20 are approved nuclear reactor accelerometers designed specifically for use in loose parts monitoring systems. They are rated to 6.2E10 RAD (integrated gamma flux), and offer high stability and reliability.



ISOTRON®

Model 7251A is designed specifically for ease of installation and flexibility. The ring-shape, center-bolt design allows 360° cable orientation. It features 500 mV/g, light weight (10.5 gm), low profile and hermetic seal.



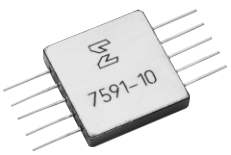
ISOTRON®

Model 7259A. This device offers broad bandwidth in a hermetic package. It produces up to 25 mV/g and features low impedance output, high signal-to-noise ratio and high frequency operation to 30 kHz. Its light weight (4.8 gm) accommodates vibration measurement even on smaller structures and objects.

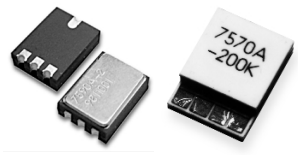
INERTIAL MOTION

Inertial motion measurements require DC and low frequency responses in a wide range of acceleration levels. We answer this challenge with a wide range of sensors that perform accurately and reliably. Areas where Endevco is providing solutions include vehicular motion, flight tests, tilt/angle measurements, tactical grade missile IMU's, platform stabilization, and shock/motion recorders. To provide flexibility, different configurations for mounting to circuit boards or directly to a structure are available.





Model 7591 is a circuit-board mountable accelerometer for OEM applications, requiring DC response, in ranges from 2 to 100 g full scale. This device provides extreme ruggedness, excellent accuracy and complete signal conditioning electronics.



not shown actual size.

Models 7590 and 7570A are circuit-board-mountable OEM accelerometers for high g shock measurements from 10's of g's to 200,000 g's. Both are lightweight, easy-to-use and extremely rugged.



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Model MSA100 Micromachined Servo Accelerometer uses a force rebalancing sensor to achieve ruggedness, wide dynamic range and low vibration rectification. This makes it a good choice for measuring inertial motion, tilt or angle.



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Model 7593A offers an economical package for measuring ±2 g acceleration with DC response. Amplified output of ±2 VDC in a ready-to-use housing, with integral cable.

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SPACE/FLIGHT TESTING
Acceleration and Pressure



Photo courtesy of McDonnell Douglas Corp. St. Louis, MO.

Over the past 50 years, Endevco has been involved with many flight test programs worldwide — supplying accelerometers, high intensity microphones, pressure transducers and airborne amplifiers. We offer a wide variety of accelerometers with very unique features, such as built-in low pass filtering, and +2.5 VDC output bias and wide operating range.

We also offer high-intensity microphones for measuring the acoustic signatures of missiles and rockets at take-off along with engine pressure studies. These sensors are capable of making vibra-acoustic measurements at levels up to 190 dB SPL, and with our airborne amplifiers, can readily interface with industry-standard telemetry systems.



ISOTRON®

Model 7250A low output impedance accelerometer features hermetic seal, 360° cable orientation and miniature size (1.8 gm). Model 2220D is its high impedance equivalent rated to +500°F (+260°C).



ISOTRON®

Models 7257AT and 7257A. The latest in flight test accelerometers, these models combine low impedance output, 4-pole low pass filter and +15 VDC to +32 VDC operation. The AT version was designed for in-flight vibration test with an output bias of +2.5 VDC for telemetry equipment compatibility.



Model 7290A MICROTRON® is available in versions offering 2 to 150 g full scale range. This variable capacitance design can operate from 9.5 V to 18.0 V and provides a high-level, ±2 V low-impedance output. Offers DC response and wide temperature range.



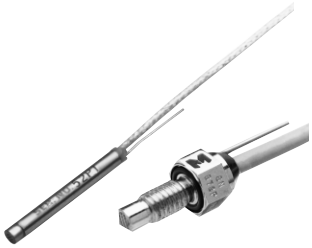
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Model 2680MX is a flight-qualified airborne amplifier series for PE and ISOTRON® transducers. Primary features are multiple gain and filter options, 28 VDC input power and compact, rugged, lightweight design. Biased, unbiased or dual outputs available.



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Model 2510 is a standard high intensity microphone used on rocket engines to measure high intensity acoustic noise from 100 to >180 dB SPL. It is insensitive to vibration inputs, provides charge output and operates from -67°F to +500°F (-55°C to +260°C).



Models 8507C and 8510B. Miniature microphones with a range of at least 100 to 190 dB SPL. Operates from -65°F to +250°F (-54°C to +121°C). Temperature compensation circuitry is built into a small case. Small size, plus high sensitivity and high resonance frequency suit them for flight tests, engine inlet and vibro-acoustic studies.



Model 8515C is a low profile 0.030 inch (0.76mm) absolute pressure transducer, with easy surface mount capabilities and high sensitivity. Ideal for aerodynamic and turbine blade pressure measurements.



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Model 4660 is a four-channel bridge amplifier offering adjustable gain from 1 to 100, an 8-pole filter, power isolation and adjustable input imbalance and offset. Operates from 28 VDC input.

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SHOCK
General Purpose

Shock testing has become a common requirement in most electronic products– from components and circuit boards to subassemblies and final assemblies. For over 50 years, manufacturers of computers, communications equipment and consumer electronics have relied on Endevco to help them design more shock-resistant products.

Endevco's piezoelectric and piezoresistive accelerometers are small enough to fit in tight places and lightweight to minimize the effects of mass loading. Despite their miniature size, these devices are built to take rough treatment. Our piezoresistive versions offer DC response, enabling you to integrate acceleration data to determine velocity and displacement during component shock testing.



Photo courtesy of Lansmont Corporation, Monterey, CA



ISOTRON®

Models 25A and 25B are the world's smallest accelerometers. Their low impedance output, miniature size, light weight (0.2 gm), flexible cable and adhesive mounting suit them for drop testing of small parts, printed circuit boards, and subassemblies.



ISOTRON®

Models 2250AMI-10/2250A-10 are small, lightweight (0.4 gm) adhesive-mounting accelerometers. They offer low impedance output, wide bandwidth, high S/N and come with a flexible cable.



ISOTRON®

Model 7253B. Consider this low profile triaxial unit when your test requires minimum mass loading effect. The 7253B can measure up to 500 g's in each axis, has a mass of only 2.5 gm, and features milli-g resolution, adhesive mounting, and a repairable integral cable.



ISOTRON®

Model 2252 is a miniature, low-profile accelerometer designed to measure shock events up to 25,000 g's. It features a flexible cable and adhesive mounting. The 2252's minimal mass (0.5 gm) is ideal for drop testing of small objects such as electronic components and personal communication devices.



ISOTRON®

Model 2258AM2-10. An ideal triaxial accelerometer that provides low impedance output, replaceable sensor subassemblies, a single output cable and light weight (15 gm). Perfect for measuring shock in three orthogonal axes on electronic assemblies and cases.



Model 7302B is a piezoresistive angular accelerometer for angular shock & vibration measurements. Features 5000 and 50,000 rads/sec^2 ranges and DC to 1600 Hz response. Combine with linear accelerometers for a 6 degree of freedom measurement.



Model 2262A uses Endevco piezoresistive technology and damping to provide frequency response from DC to 1000 Hz. Ranges from 25 to 2000 g with fully hermetically sealed case. Model 2262CA adds 6-wire shunt calibration.



Models 7264, 7264B, and 7264C are compact, rugged sensors for shock testing of lightweight electronic systems, assemblies or printed circuit boards. Measures both long and short duration shocks accurately with 200, 500 or 2000 g full scale range. Weighs only one gram.

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SHOCK
Severe Environment



Photo courtesy of Naval Air Warfare Center, Weapons Division, China Lake, CA

Endevco accelerometers have been industry standards for shock measurement for over two decades. These rugged devices can take shocks up to 200,000 g's, far-field or near-field. We offer the only piezoresistive high-g shock sensors with DC response, which gives you the ability to integrate acceleration measurements to determine velocity and displacement. Specially designed mechanical filters mitigate high-g, high-frequency inputs that cause errors in other sensors.

In addition to high-g survivability, these accelerometers are small, lightweight and easy to install. They are frequently specified for applications involving pyrotechnic rocket stage separation, weapons testing and underwater explosions, and missile penetration studies.



Model 2225M5A, an industry standard for two decades, features charge output and requires no external power. A truly rugged accelerometer, it has a large 1/4-28 threaded hole to ensure mounting integrity.



ISOTRON®

Model 2255B is a miniature, lightweight, low impedance output device for far-field, high-g shock measurement. Electronic LP filter prevents saturation from accelerometer resonance. Available in 1mV/g and 0.1 mV/g.



ISOTRON®

Model 7255A PYROTRON.™ The only high-g shock accelerometer with built-in electronics and mechanical filter. Ideal for near-field pyroshock and high-level mechanical impact measurements where high frequency signals mask desired information. Survives 300,000 g's and offers 10 kHz response. Available in 1mV/g and 0.1 mV/g.



Model 7270A is available in five ranges covering 2000 to 200,000 g's full scale. This piezoresistive accelerometer delivers DC response, high resonance frequency, low impedance output, zero damping and no phase shift. Features a rugged monolithic silicon sensor in a small case.



Model 7270AM6 features a built-in mechanical filter that protects against high-g, high-frequency acceleration and inputs that could exceed over-range limits. Available in three ranges, from 6000 to 60,000 g full scale with a frequency response from DC to 10 kHz.

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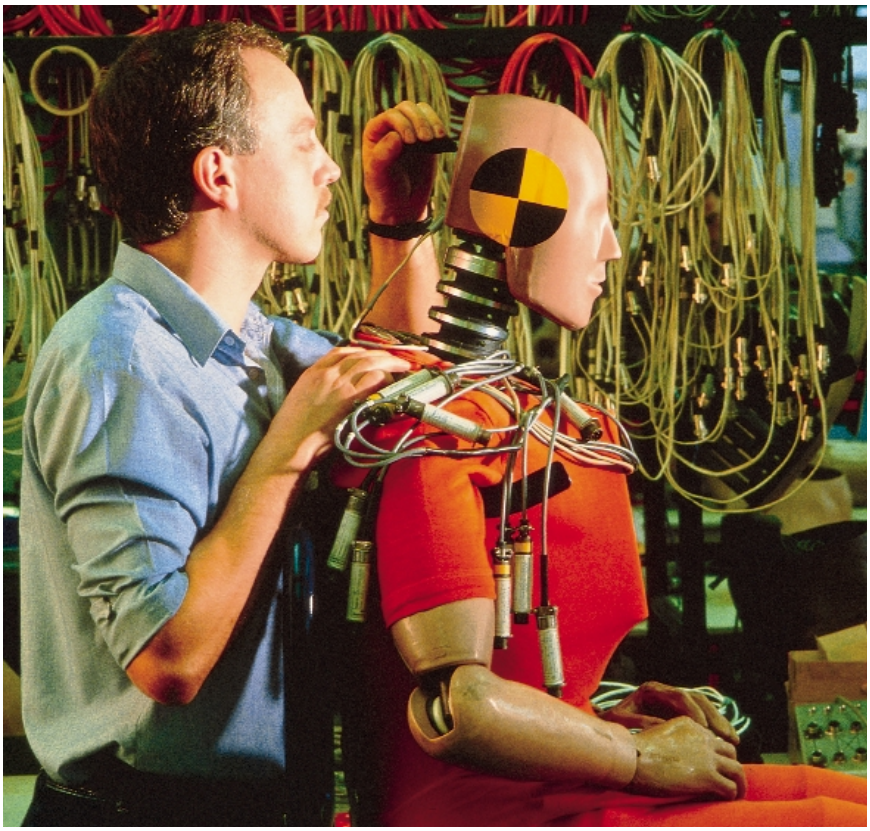
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SHOCK
Auto Crash Testing

Endevco offers a complete line of industry standard piezoresistive accelerometers for automotive crash studies and dummy instrumentation. Endevco accelerometers meet or exceed the requirements of the SAE J211 instrumentation standard and are employed in all front and side impact anthropomorphic dummies to measure head, thorax, pelvis and leg accelerations.

These small, lightweight, yet ruggedly built accelerometers are available in a variety of configurations to suit various mounting requirements. All feature DC response, the ability to measure long transient shocks and enable integration of acceleration data to determine velocity and displacement in motion studies. These accelerometers are undamped and thus produce no phase shift over their useful frequency range.

Three of the models weigh only 1 gram, effectively eliminating concerns about mass loading. All are ideal for use in tight locations in the dummy or on the vehicle, and are rugged enough to handle severe crash test environments.



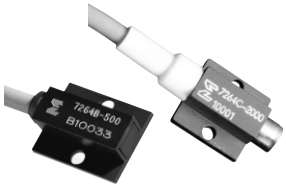
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Model 7231C is a proven, easy-to-attach accelerometer with a full scale range of 750 g. Ultra-reliable performance makes it the industry standard in nearly all dummy designs. Mounts with a 10-32 UNF mounting stud. Cable attaches to four solder terminal pins.



Model 7264. Industry favorite for its rugged performance, wide frequency response, small size and light weight (1 gm). Frequency response from DC or steady state acceleration, full scale ranges of 200 and 2000 g, these accelerometers are ideal for measuring long duration transients as well as short duration shocks.



Models 7264B & 7264C utilize a micromachined silicon sensor with improved ruggedness and stability. Small size, light weight (1 gm), wide frequency response, excellent linearity and full bridge design are key features. Available in 500 g and 2000 g full scale with low transverse sensitivity.

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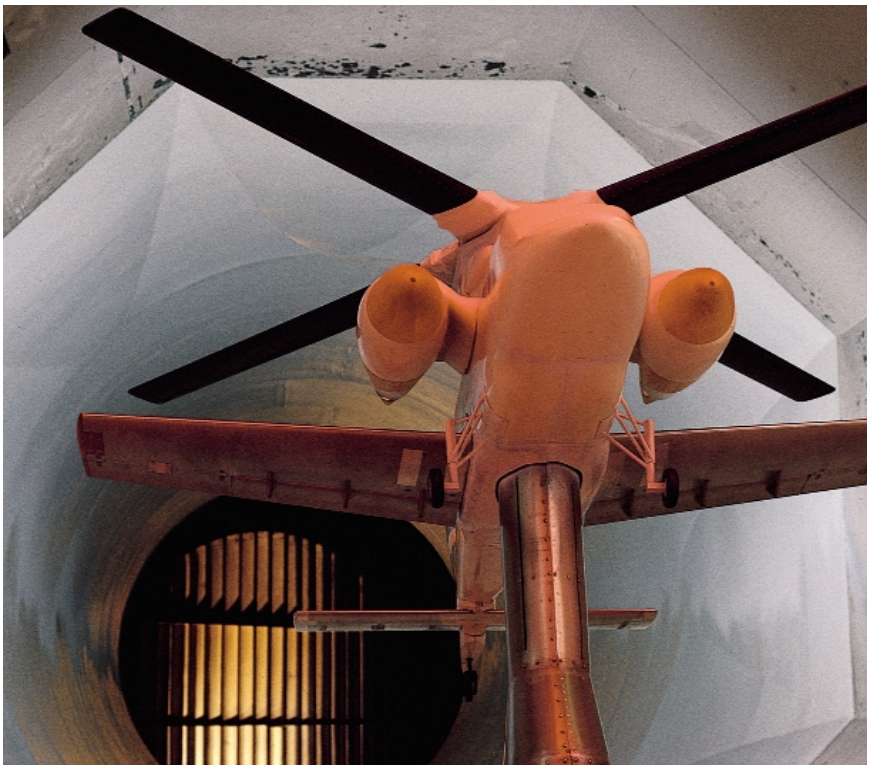
Model 7267A triaxial accelerometer, with field replaceable sensors and cable, makes multi-axis acceleration measurements fast and economical. Both top and side cable entry holes are provided.



Model 7265AM3 is a low mass (3 grams) accelerometer with an easily detachable cable and 2000 g full scale range. Integral, full bridge design allows for easy shunt calibration. High sensitivity, wide frequency response from DC to 4000 Hz and low transverse sensitivity.

See pages 20-23 for full specs and our complete line of dynamic measurement instruments. All products are shown actual size, unless marked otherwise.
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PRESSURE TRANSDUCERS



Endevco pressure transducers are tough, miniaturized devices that deliver outstanding performance in the face of extreme vibration, shock, over-pressure, heat, cold and humidity. Offering both static and dynamic response, these transducers utilize a patented silicon micromachined diaphragm incorporating four piezoresistive strain gages that change electrical resistance in proportion to applied mechanical stress.

These gages are atomically bonded into silicon diaphragms, shaped to concentrate stress at the strain gages. This proprietary design offers exceptional ruggedness, with high sensitivity, high signal-to-noise ratio, wide dynamic range, plus excellent linearity and stability. Endevco pressure transducers have been selected for various applications in the aerospace and defense, automotive, petrochemical, marine and medical industries.



Models 8510B/8510C are available from 1 to 2000 psi full scale range and a high level output (300 mV). Operating from -65°F to +250°F (-54°C to +121°C), and offering high overpressure capability, they are proven in a wide variety of applications.



Model 8507C miniature pressure transducer offers a high full scale output of 300 mV with ranges of 2, 5, 15, and 25 psig. Cylindrical case measures just 0.092 in. (2.34 mm) x 0.5 in. (12.7 mm), and contains temperature compensation. Ideal for wind tunnel and flight test applications.



Model 8511A is available in ranges from 5000 to 20,000 psig with full scale output of 500 mV. A rugged device with a 3/8 inch mounting thread, it is widely used for high pressure applications such as studies of hydraulic systems, shock wave tests and explosive devices.



not shown actual size.

Model 8520A high temperature pressure transducer operates accurately to +500°F (+260°C) continuously, with short-term operation to +600°F (+316°C). Available in ranges of 10, 20, 50, 100 and 500 psig, with low photoflash response and wide frequency response.



Models 8530B/8530BM37/8530C absolute pressure transducers are available with ranges from 15 to 2000 psia. Rugged, easy-to-install, high level output and wide frequency response. Operates from -65°F to +250°F (-54°C to +121°C). 8530BM37 offers removable cable.



Models 8515C and 8515-CXM22 are low profile pressure transducers measuring only 0.030 in. (0.76 mm) high and 0.25 in. (6.4 mm) in diameter. Available in 15 and 50 psia ranges with internal compensation, and 200 mV full scale output. The M22 features a wide compensated range and an optional temperature output.



Model 8540 and 8541 high temperature absolute pressure transducer is capable of continuous operation to +500°F (+260°C) and +662°F (+350°C), respectively—with short-term operation to +750°F (+400°C). Available in ranges of 15, 50, 100, 200 and 500 psia, they are ideal for jet engine tests, automotive manifolds and other high temperature applications.



A Screen B Screen

Endevco offers a wide choice of options to customize our pressure transducers to your specific applications.
These include special compensated temperature ranges, light intensity screens, metric threads and diaphragm coatings for protectection against corrosive media.

See pages 20-23 for full specs and our complete line of dynamic measurement instruments. All products are shown actual size, unless marked otherwise.

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ELECTRONICS
Manual and Computer Controlled

Endevco puts you in control with the most comprehensive line of high performance laboratory-quality instruments in the industry. Whether you need to measure vibration, shock or pressure phenomena, we offer everything from single-channel, low-cost manual units to multi-channel computer controlled amplifier systems.

Models come in modular, rack-mounted and benchtop configurations. One-, three-, four-, six-, 10-, 12-, 36- and 72- channel versions are available.

For our computer controlled instruments, optional application software is available for quick set up and control via GPIB IEEE-488 or RS-232 computer control.



Photo courtesy of Hughes Space and Communications Company, Los Angeles, CA

Manual and Computer Controlled



Model 133 is a 3-channel signal conditioner for piezoelectric and ISOTRON® inputs offering gain of zero to 1000, RS232 control with optional application software, multiple filter options (including J211 and ISO6487 types), LED display and optional 12 VDC power.



Model 136. A 3-channel DC amplifier to condition resistive bridge or voltage type sensors. Features are similar to Model 133 but with 200 kHz bandwidth and auto zero, auto balance and shunt calibration capability.

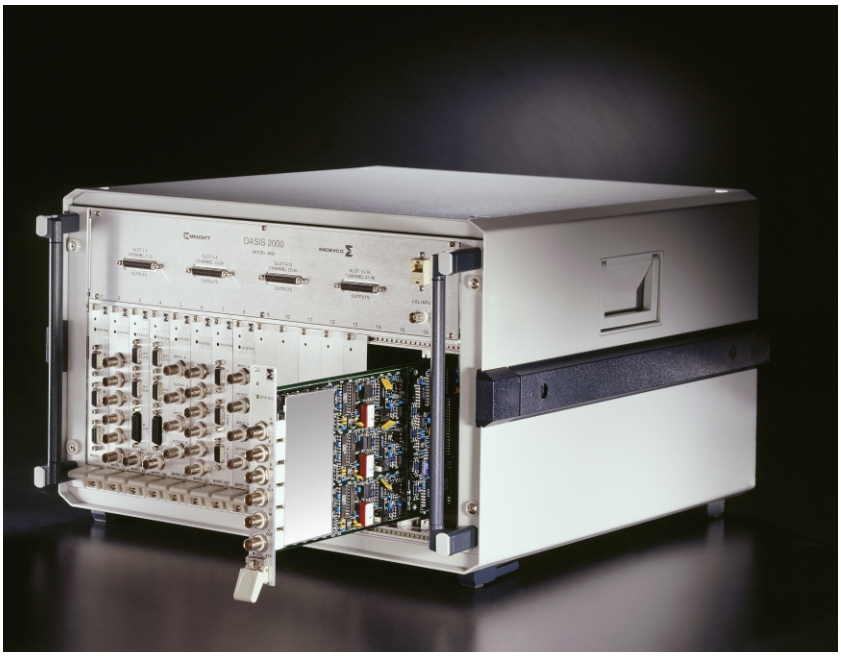


Model 4430A. A 1-to-10 channel, Universal Amplifier accepting inputs from 1/4 to full bridge, ISOTRON and Single-ended Piezoelectric (SEPE) charge (optional). Includes IEEE-488 computer control, 100 kHz bandwidth, automatic and manual bridge balance and amplifier zero, programmable filters, current, voltage and gain with 0.1% accuracy.

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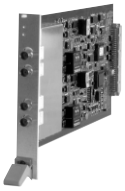
ELECTRONICS
Computer Controlled or Manual Controlled



Manually controlled units that support ISOTRON® transducers offer low-cost-per-channel and high-channel density. With the addition of an Endevco remote charge convertor, long cable runs are possible without compromising signal-to-noise ratio.

We've also provided airborne signal conditioning to the aerospace industry since 1966, with amplifiers that support piezoelectric, ISOTRON, piezoresistive, and variable capacitance transducers.

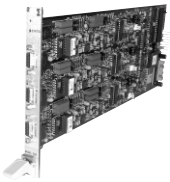
Computer Controlled



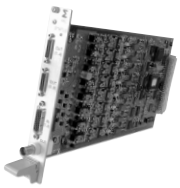
Model 428 is a 2-channel piezoelectric/ISOTRON, high performance signal conditioner with switchable isolation.



Model 433 is a 3-channel piezoelectric/ISOTRON signal conditioner for general use without channel isolation.



Model 436 is a 3-channel dc amplifier designed for use with piezoresistive accelerometers, pressure transducers, strain gages and variable capacitance accelerometers.



Model 482 is an 8-channel Smart ISOTRON signal conditioner that interfaces with accelerometers using IEEE 1451.4 protocol and standard ISOTRON accelerometers.

Manual Controlled



Model 2793 is a 16-channel ISOTRON amplifier offering low cost per channel, plus dual outputs, both BNC and 25-pin "D" connectors, LED status indicators and 40 kHz bandwidth.



Models 4416B/4416BM1 are single channel ISOTRON amplifiers featuring low noise, compactness, battery operation, selectable gain of 1 or 10, and low cost.



Model 2792B is a 9-channel ISOTRON amplifier with sensitivity normalization, LED status indicators, 30 kHz bandwidth and selectable gain of 1 or 10.



Model 4475 is a 10-channel, low-cost power source used with Model 50 and other ISOTRON accelerometers.

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ELECTRONICS
Test Cell Instrumentation

Vibration forces are a dangerous threat to turbine engines. Despite this, few engines fail during operation. This is due in great part to the Engine Vibration Monitoring (EVM) techniques used by manufacturers to validate the design and acceptance of production engines. Endevco has been a supplier of transducers, cables and signal conditioners to the turbine engine industry for many years.

Our products are used extensively to measure vibration during ground, in-flight and on-board monitoring of aircraft, surface ship and submarine engines. We will continue to play a key role as new engines are developed, certified and placed into production. On the industrial side, our sensors, assemblies and systems are used to monitor turbine engines employed in pipeline pumping, oil production, power plants and other process control operations.

Combined with our family of computer-controlled vibration amplifiers, digital tracking filter-amplifiers and differential remote charge converters, we offer engine OEMs and their end-users a near-turnkey solution to vibration monitoring.



Photo courtesy of Aero Systems Engineering, Inc., Member of the Celsius Group.



Model 6634B is a single channel vibration amplifier. It accepts inputs from piezoelectric (SEPE), differential PE (DIFF PE), ISOTRON® or velocity coils. Features non-volatile memory, programmable filter, outputs for acceleration, velocity and displacement, plus programmable alarm and alert levels with optional programmable filter and RS-232 computer interface.



Model 68221 is a digital tracking filter featuring IEEE-488 control of up to 8 tracking filter and 8 vibration channels used for jet engine trim balance activities. This instru ment accepts inputs from SEPE, DIFF PE, ISOTRON and velocity coils and features acceleration, velocity and displacement outputs plus programmable low pass, high pass and bandpass filters. Key features are: FFT constant bandwidth, constant Q, data averaging and multiple Q values.



Model 2777 is a single channel differential remote charge converter, for DIFF PE inputs, offering single-ended acceleration and velocity output, gain of 2 or 10, low noise, 28 VDC input power, 10 kHz bandwidth and four high pass filter options.



Model 2787 is a two channel differential remote charge converter that accepts DIFF PE inputs and provides an exceptionally low-noise velocity output.

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CALIBRATION SYSTEMS AND SERVICES



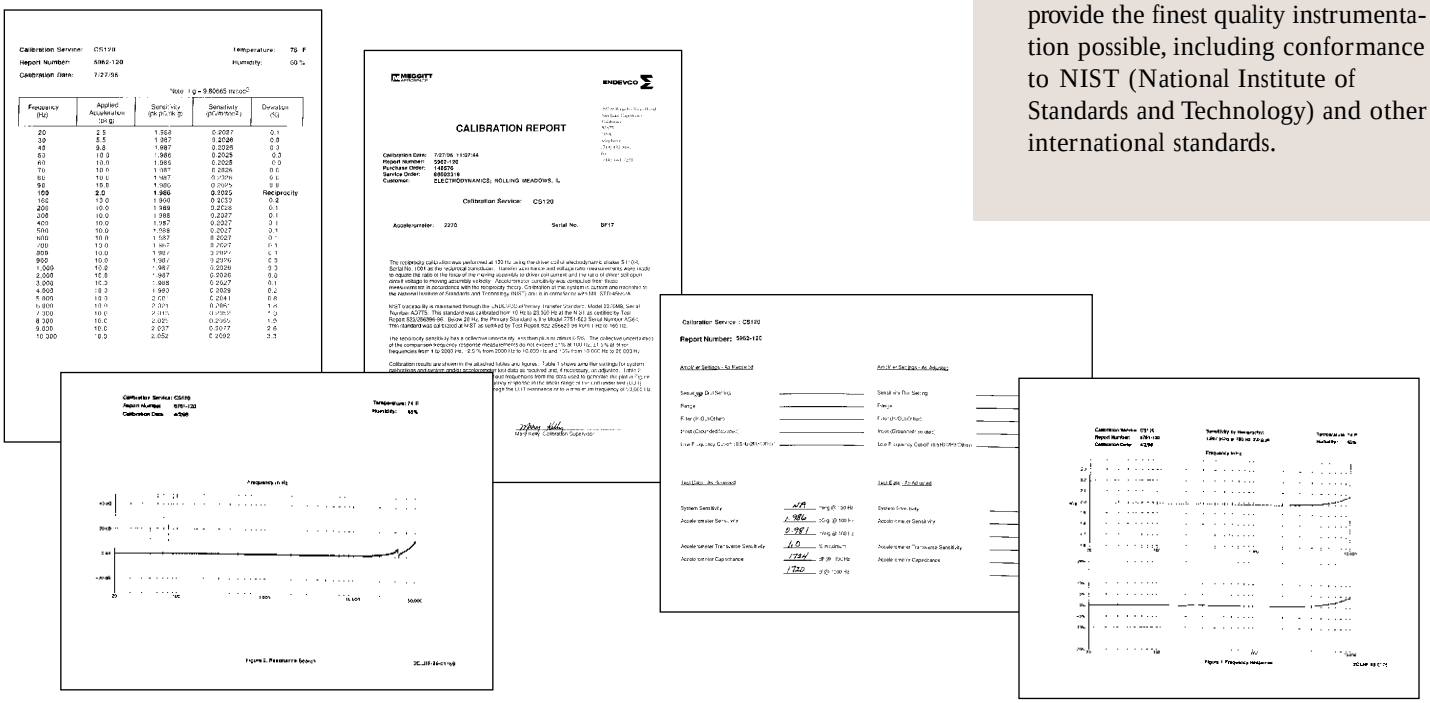
POP™ (Pneumatically Operated Projectile) and SMAC™ (Shock Motion Accelerometer Calibrator) Hopkinson Bar systems are available to meet your shock calibration needs.

Endevco offers a full range of components and systems to help you calibrate your sensors. These include primary standard accelerometers, amplifiers, and full systems, which range from portable, battery-powered units for easy field use to an Auto-matic Accelerometer Calibration System (AACS). This system can control multiple exciters such as long stroke shakers, high frequency shakers, and shock calibrators—for traceable calibration on most accelerometers.

We also offer complete calibration services so that you can regularly recalibrate sensors and maintain a high level of precision and accuracy. Many types of calibration are available, including absolute vibration calibration-for the lowest uncertainty-and comparison techniques for shock and vibration. Other supplemental or environmental calibration services can be ordered to verify amplitude linearity, frequency response, system sensitivity, and the variation of your accelerometer's sensitivity at high or low temperature.

It's all part of our commitment to provide the finest quality instrumentation possible, including conformance to NIST (National Institute of Standards and Technology) and other international standards.

Calibration reports are shipped with every Endevco accelerometer and transducer.



See pages 20-23 for full specs and our complete line of dynamic measurement instruments.

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TRANSDUCER CABLES

Cable is the critical link in the data acquisition process, but not all cable is equal. Quality varies widely from maker to maker, spool to spool, even foot to foot. That's why we have made our own cable for more than 30 years. In that process, we use proprietary 100% continuous testing methodologies that enable us to guarantee consistent quality on every inch. Reliability is our design goal.

To obtain assemblies that would meet our special needs for harsh or special environments, Endevco also manufactures most raw cables. You can benefit from our experience and vertical integration by specifying Endevco cables and assemblies for your requirement.

Cable Assemblies for Piezoelectric and ISOTRON® Accelerometers



Model 3024. Low mass, flexible cable for ISOTRON® accelerometers, twisted pair 10-32 male connector and pigtail.

Model 3024M1 has extra ground shield.

Model 3061A. Very flexible cable for ISOTRON® transducers. BNC plug at instrumentation end. 10-32 plug at transducer.

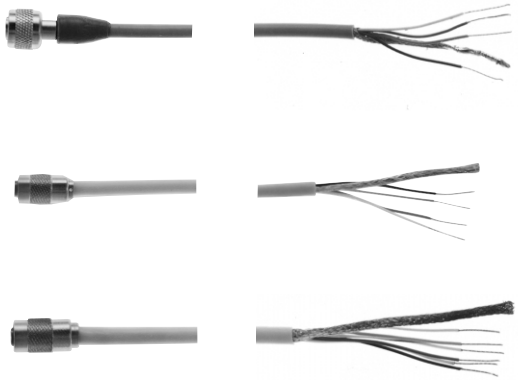
Model 3090C. A low noise, coaxial assembly with 10-32 male connectors. A must for charge output PE transducers. For -423°F to +550°F (-254°C [LH2] to +288°C).

Model 3096. Kevlar® reinforced, low noise coaxial cable with 10-32 male connectors. For -22°F to +550°F (-30°C to +288°C).

Model 3075M6. High temperature, nuclear hardened assembly with 10-32 male connectors. For -300°F to +900°F (-184°C to +482°C).

Model 3027AM3. A 4-conductor cable for triaxial ISOTRON accelerometers. Microtech connector at transducer; three BNC's at instrumentation end.

Cable Assemblies for Piezoresistive and Variable Capacitance Transducers



Model 3028. Four-conductor, shielded cable, Teflon® jacketed for harsh environments. Mates with Model 8530BM37 pressure transducer.

Model 3022B. Four Teflon insulated leadwires, with silicon jacket for piezoresistive accelerometers.

Model 3023B. Six Teflon insulated leadwires, shielded cable with silicon jacket for piezoresistive accelerometers. Ideal for shunt calibration.

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MOUNTING ADAPTERS AND ACCESSORIES



Adhesive kit



Triaxial blocks and mounting studs

No matter what kind of accelerometers you choose, Endevco has the adapters, mounting blocks, cements and other accessories needed to make installation and mounting fast and easy.

For electrical isolation of grounded type accelerometers, an insulated mounting stud with proper temperature rating can help prevent the unnecessary ground loop. A cementing stud helps prevent adhesive build-up in the accelerometer threads.

For certain applications, a magnetic adapter can dramatically reduce test time. For measurement in three orthogonal axes, choose our properly machined triaxial mounting blocks to minimize frequency response degradation. And you'll find that our adhesive kits offer almost everything you need for adhesive mounting.

Type	Model No.	Used With Accelerometer Models	Details/Notes
Triaxial Block	2950	Most models with 10-32 thread	1" x 1" x .67", Aluminum
	2950M3	2221D, 2221F, 7221A, 7251A, 6251MX, etc.	.875" x .875" x .625", Aluminum
	2950M16	25A, 25B	.310" x .236" x .285", Aluminum
	2950M18	2220D, 7250A, etc.	.5" x.5" x .4", Aluminum
	2961	2222C, 2250A's	.42" x .42" x .29", Aluminum
	2967A	2255B, 7255A	.96" x .96" x .45", Beryllium
	7950	7231C, 7232C	1.1" x 1.45" x 1.114", Aluminum
	7953/7954	7264-2000/-200	.65" x .65" x .43", Magnesium
	7955/M1	7265A, 7265A-HS/7265AM3	.80" x .80" x .66", Magnesium
	7964A	7264B, 7264C	.65" x .65" x .43", Aluminum
	7970	7270A	.60" x .80" x .36", Titanium
	7990	7290A, 7596	1" x 1" x 1.04", Aluminum
Mounting Stud	2981-12	Most models with 10-32 thread	.215" tall, Stainless Steel
Isolating Adapter	2980M4	Most models with 10-32 thread	.495" OD, +260°C
	2980M9	Most models with 10-32 thread	.625" Hex, +177°C
	2985	Most models with 10-32 thread	.625" Hex, +400°C
	2986B	Most models with 10-32 thread	.625" Hex, +260°C
Adhesive Adapter	2987	2221D, 2221F, 7221A, 7251A, 6251MX, etc.	.50" Hex, +260°C
	2988	Most models with 10-32 thread	.625" Hex, +260°C
Magnetic Adapter	2988M7	Most models with 10-32 thread	.71" OD, +177°C
Cable Adapter	EJ34	Cables with 10-32 plugs	Joins two 10-32 cables together
	EJ21	Cables with 10-32 plugs	Converts 10-32 plug into BNC plug
Adhesive Kit	31849	All adhesively mounted transducers	Contains various adhesives/solvent

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PRODUCT SELECTION GUIDE
Piezoelectric Accelerometers

MODEL	Sensitivity (pC/g)	Weight gram	Linear Range g	Shock Limit g	Frequency Response Hz	Min. Temp. °C (°F)	Max. Temp. °C (°F)	Signal/Ground Isolation	Hermetic Seal	Mounting Methods	See Page
PIEZOELECTRIC											
12M1A	1.9	0.12	500	1000	1-2000	-65 (-85)	149 (300)	N/A	N/A	Ad, Solder	7
22	0.4	0.14	4000	10 000	1-10 000	-73 (-100)	149 (300)	YES	NO	Adhesive	4
23	0.4	0.8	2000	10 000	1-10 000	-73 (-100)	149 (300)	YES	NO	Adhesive	4
2220D	3	3.1	1000	5000	1-10 000	-55 (-67)	260 (500)	YES	YES	Screw	6
2221D	17	12	1000	5000	1-6000	-55 (-67)	177 (350)	YES	NO	Screw	—
2221F	10	11	1000	3000	1-10 000	-55 (-67)	260 (500)	NO	YES	Screw	—
2222C	1.4	0.5	1000	10 000	1-8000	-73 (-100)	177 (350)	YES	NO	Adhesive	4
2223D	12	41	1000	2000	1-6000	-55 (-67)	177 (350)	YES	NO	Screw	—
2224C	12	16	1000	2000	1-6000	-55 (-67)	177 (350)	NO	NO	Screw	—
2225	0.75	13	10 000	20 000	1-8000	-55 (-67)	177 (350)	NO	NO	Screw	—
2225M5A	0.025	13	100 000	100 000	1-8000	-55 (-67)	177 (350)	NO	NO	Screw	10
2226C	2.8	2.8	1000	2000	1-5000	-55 (-67)	177 (350)	NO	NO	Adhesive	3
2228C	2.8	15	1000	2000	1-4000	-55 (-67)	177 (350)	YES	NO	Screw	—
2229C	2.8	4.9	1000	2000	1-5000	-55 (-67)	177 (350)	YES	NO	Screw	—
2230D	3	17	1000	2000	1-5000	-55 (-67)	260 (500)	NO	YES	Adhesive	6
2248/M1	2.5	13	500	3000	10-10 000	-55 (-67)	482 (900)	NO	YES	Screw	6
2271A	11.5	27	1000	10000	1-4000	-269 (-425)	260 (500)	YES	YES	Screw	—
2271AM20	11.5	27	1000	10000	1-4000	-269 (-425)	260 (500)	YES	YES	Screw	—
2272	13	27	1000	2000	1-5000	-269 (-425)	260 (500)	NO	YES	Screw	—
2273A	3	25	1000	10000	1-6000	-184 (-300)	399 (750)	NO	YES	Screw	—
2273AM1/AM20	10	32	500	3000	1-5000	-55 (-67)	399 (750)	YES	YES	Screw	7
2276	10	30	500	3000	1-5000	-55 (-67)	482 (900)	NO	YES	Screw	6
6222S-20A	20	91	2000	4000	1-9000	-55 (-67)	260 (500)	YES	YES	Screw	—
6222S-50A	50	91	1000	2000	1-6000	-55 (-67)	260 (500)	YES	YES	Screw	—
6222S-100A	100	91	500	1000	1-6000	-55 (-67)	260 (500)	YES	YES	Screw	—
6233C-10	10	75	1000	2000	10-5000	-55 (-67)	482 (900)	YES	YES	Screw	—
6233C-50	50	110	1000	2000	10-2500	-55 (-67)	482 (900)	YES	YES	Screw	—
6233C-100	100	110	500	1000	10-2000	-55 (-67)	482 (900)	YES	YES	Screw	—
6237M70	10	30	500	2000	2-5000	-55 (-67)	649 (1200)	YES	NO	Screw	—
6237M71	10	30	500	2000	2-5000	-55 (-67)	649 (1200)	YES	NO	Screw	—
6240C-10	10	200	1000	2000	5-2500	-55 (-67)	649 (1200)	YES	YES	Screw	6
6240M10	5	95	250	1000	2-2000	-55 (-67)	760 (1400)	YES	YES	Screw	6
7201-10	10	18	2000	20 000	1-12 000	-73 (-100)	260 (500)	NO	YES	Screw	—
7201-50	50	24	2000	10 000	1-6000	-73 (-100)	260 (500)	NO	YES	Screw	—
7221A	10	11	1000	5000	1-10 000	-55 (-67)	177 (350)	NO	YES	Screw	3
7240B	2.7	4.8	1000	5000	1-15 000	-55 (-67)	260 (500)	NO	YES	Screw	6
7701A-50	50	25	2000	10000	1-6000	-55 (-67)	288 (550)	NO	YES	Screw	—
7701A-100	100	29	1000	5000	1-5000	-55 (-67)	288 (550)	NO	YES	Screw	—
7701A-200	200	62	850	2000	1-4000	-55 (-67)	288 (550)	NO	YES	Screw	—
7701A-1000	1000	120	500	1000	1-2000	-55 (-67)	288 (550)	NO	YES	Screw	—
7702A-17	17	25	2500	12000	1-10000	-55 (-67)	288 (550)	NO	YES	Screw	—
7702A-50	50	25	2000	10000	1-6000	-55 (-67)	288 (550)	NO	YES	Screw	—
7703A-50	50	25	2000	10000	1-6000	-55 (-67)	288 (550)	YES	YES	Screw	—
7703A-100	100	29	1000	5000	1-5000	-55 (-67)	288 (550)	YES	YES	Screw	—
7703A-200	200	62	850	2000	1-4000	-55 (-67)	288 (550)	YES	YES	Screw	—
7703A-1000	1000	120	500	1000	1-2000	-55 (-67)	288 (550)	YES	YES	Screw	6
7704A-17	17	25	2500	12 000	1-10000	-55 (-67)	288 (550)	YES	YES	Screw	—
7704A-50	50	25	2000	10 000	1-6000	-55 (-67)	288 (550)	YES	YES	Screw	—
7722/7724	3.7	29	500	2500	1-4000	-269 (-425)	177 (350)	NO/YES	YES	Screw	6

PRODUCT SELECTION GUIDE
Isotron® Accelerometers/AC Electronics

MODEL	Sensitivity (mV/g)	Weight gram	Linear Range g	Shock Limit g	Frequency Response Hz	Min. Temp. °C (°F)	Max. Temp. °C (°F)	Signal/Ground Isolation	Hermetic Seal	Mounting Methods	See Page
ISOTRON®											
2250A/AMI-10	10	0.4	500	2000	2-8000	-55 (-67)	125 (257)	YES	NO	Adhesive	4, 9
2255B-01/-1	0.1/1	2	50K/5K	50K/5K	5-15 000	-55 (-67)	125 (257)	YES	NO	Screw	9, 10
2256AM2	5	5	1000	2000	3-3000	-185 (-301)	125 (257)	YES	YES	Adhesive	6
2258A-10/-100	10/100	15	500/50	2000	1-5000	-55 (-67)	125 (257)	YES	YES	Screw	3
2258AM2-10/-100	10/100	15	500/50	2000	1-5000	-55 (-67)	125 (257)	YES	YES	Screw	9
25A/B	5	0.2	1000	2000	2-8000	-55 (-67)	125 (257)	YES	NO	Adhesive	4, 9
256-10/-100	10/100	3.2	500/50	2000	1-8000	-55 (-67)	125 (257)	YES	YES	Adhesive	3
256HX-10/-100	10/100	4.2	500/50	2000	1-8000	-55 (-67)	125 (257)	YES	YES	Screw	3
35A	5	1.1	1000	2000	2-8000	-55 (-67)	125 (257)	YES	YES	Adhesive	—
50/50M1	50	3.8	40	2000	1-5000	-20 (-4)	85 (185)	YES	YES	Ad, Mgnt, Scw	3
5253A-100	100	60	50	1000	2-10 000	-55 (-67)	105 (221)	YES	NO	Screw	—
63B-100	100	9	50	8000	1-5000	-55 (-67)	125 (257)	YES	NO	Adhesive	5
61C12/C13	100/1000	12	50/5	8000	1-3000	-55 (-67)	125 (257)	YES	YES	Adhesive	5
63C12/C13	100/1000	39	50/5	8000	1-3000	-55 (-67)	125 (257)	YES	YES	Adhesive	5
7250A-2/-10	2/10	1.8	5000/500	10 000	4-12 000	-55 (-67)	125 (257)	YES	YES	Adhesive	8
7251A-10	10	10	500	5000	2-10 000	-55 (-67)	125 (257)	YES	YES	Screw	7
7251A-100	100	10	50	5000	2-10 000	-55 (-67)	125 (257)	YES	YES	Screw	7
7251A-500	500	10	10	5000	2-10 000	-55 (-67)	125 (257)	YES	YES	Screw	7
7253B-10	10	2.5	500	2000	2-8000	-55 (-67)	125 (257)	YES	NO	Adhesive	4, 9
7254A-10	10	20	500	5000	2-10 000	-20 (-4)	85 (185)	NO	YES	Screw	3
7254A-100	100	20	50	5000	2-10 000	-20 (-4)	85 (185)	NO	YES	Screw	3
7254A-500	500	20	10	5000	2-10000	-20 (-4)	85 (185)	NO	YES	Screw	3
7255A-01	0.1	5	50 000	300 000	10-8000	-18 (0)	66 (150)	YES	YES	Screw	10
7255A-1	1	5	5000	5000	10-8000	-18 (0)	66 (150)	YES	YES	Screw	10
7257AT-10-YYY	10	14	250	2000	2-500, 2k, 5k	-55 (-67)	100 (212)	YES	YES	Screw	8
7257AT-100-YYY	100	14	25	2000	2-500, 2k, 5k	-55 (-67)	100 (212)	YES	YES	Screw	8
7259A-10/-25	10/25	4.4	500/200	10 000	5-20000	-55 (-67)	125 (257)	NO	YES	Screw	7
750	100	31	80	5000	1-6000	-55 (-67)	125 (257)	NO	YES	Screw	3
752A-100	100	12	50	5000	1-4000	-55 (-67)	125 (257)	YES	YES	Screw	3
752A-1000	1000	12	5	5000	1-4000	-55 (-67)	125 (257)	YES	YES	Screw	3
7752-1000	1000	33	5	2000	0.2-5000	-20 (4)	85 (185)	YES	YES	Screw	5
7754A-1000	1000	115	5	1000	0.1-600	-55 (-67)	85 (185)	NO	YES	Screw	5

AC ELECTRONICS

MODEL	Input	Channels	Gain	Display	RTO Noise	-3dB (Hz)	Low Freq. -3dB (Hz)	High Freq. Power	Type of Control	See Page
133	PE/ISOTRON	3 to 9/Rack	0 to 1000	DPM	1 mVrms	0.03	100 000	AC/DC/BATT	Manual/RS-232	13
2680MX	PE	1	0.1 to 100		1.5 mVrms	1.5	Selection	DC	Manual	—
2685MX	ISOTRON	1	0.1 to 100		1.5 mVrms	1.5	Selection	DC	Manual	—
2721B	PE	1 or 9/Rack	1 to 100		100 µVrms	1	40 000	AC/DC	Manual	—
2771A-X	PE	1	0.1 to 20		1 mVrms	0.2	40 000	CONST. CURRENT	Manual	—
2777A-X	DIFF PE	1	2 or 10		1 mVrms	6	17 500	DC	Manual	—
2775A	PE/ISOTRON	1 to 6/Rack	.03 to 1000	METER	1 mVrms	0.2	200 000	AC	Manual	—
2775AM4	PE/ISOTRON	1 to 6/Rack	.03 to 10 000	METER	1 mVrms	0.6	200 000	AC	Manual	—
2792B	ISOTRON	9	1 to 1000		1 mVrms	0.3	120 000	AC	Manual	14
2793	ISOTRON	16	1 or 10		1 mVrms	0.3	120 000	AC	Manual	14
35918-XX	PE	1	.1 or 1		1 mVrms	0.05	200 000	CHARGE AMP	FOR 4430A	—
428	PE/ISO	2	0 - 10000	Computer	.5 mVrms	<0.159	<100 000	AC	RS-232/Ethernet	
433	PE/ISO	3	0 - 1000	Computer	.4 mVrms	0.1	100 000	AC	RS-232/Ethernet	
482	SMART ISOTRON	8	0 - 100	Computer	.15mVrms	0.015	100 000	AC	ES-232/Ethernet	
4416B	ISOTRON	1	1 or 10		100 µVrms	0.3	40 000	AC/DC/BATT	Manual	14
4430A	PE/PR/ISO	1 to 10/Rack	1 to 1000	DPM	1 mVrms	0	100 000	AC	Manual/GPIB	13
4430A-1	PE/PR/ISO	1 to 10/Rack	1 to 10 000	DPM	1 mVrms	0	100 000	AC	Manual/GPIB	—
4475	ISOTRON	10	1	None	<5 mVrms	0.068	50 kHz	AC/DC	Manual	14
6634B	DIFF PE	1 to 6/Rack	.033 to 3333	DPM	2 mVrms	0.6	80 000	AC	Manual/RS-232	—
68220	DIFF PE	1 to12/Rack	.06 to 20 000		6.8 mVrms	0.6	200 000	AC	GPIB	—

PRODUCT SELECTION GUIDE
Piezoresistive/Variable Capacitance Accelerometers/DC Electronics

MODEL	Sensitivity (mV/g)	Weight gram	Linear Range g	Shock Limit g	Frequency Response Hz	Min. Temp. °C (°F)	Max. Temp. °C (°F)	Signal/Ground Isolation	Hermetic Seal	Mounting Methods	See Page
PIEZORESISTIVE											
2262A-100*	5		100	2000	0-1300						
2262A-200*	2.5		200	2000	0-1800						
2262A-1000*	0.5		1000	2500	0-1500						
2262A-2000*	0.25		2000	5000	0-3000						
*** Shunt calibration feature available as Model 2262CA**											
7264-200	2.5	1	200	2000	0-1000	-18 (0)	66 (150)	YES	NO	Screw	9, 11
7264-2000	0.25		2000	5000	0-4000	-18 (0)	66 (150)				
7264B-500	0.8		500	5000	0-3000	-40 (-40)	93 (200)				
7264B-2000	0.2		2000	10 000	0-5000	-40 (-40)	93 (200)				
7264C-500	0.8	1	500	5000	0-3000	-18 (0)	66 (150)	YES	NO	Screw	
7264C-2000	0.2	1	2000	10 000	0-2000	-18 (0)	66 (150)	YES	NO	Screw	
7265A	5	5	100	2000	0-800	-18 (0)	66 (150)	YES	YES	Screw	5
7265A-HS	25	5.9	20	2000	0-500						5
7265AM3	0.25	3	2000	5000	0-4000						11
7267A (3X)	0.15	50	1500	4000	0-2000	-23 (-10)	66 (150)	YES	YES	Screw	11
7270A-2K	0.1	1.5	2000	6000	0-10 000	-34 (-30)	66 (150)	YES	NO	Screw	10
7270A-6K**	0.03		6000	18 000	0-20 000						
7270A-20K**	0.01		20 000	60 000	0-50 000						
7270A-60K**	0.003		60 000	180 000	0-100 000						
7270A-200K	0.001		200 000	200 000	0-150 000						
**** Mechanical filter with DC to 10k Hz response available as Model 7270A-M6**											
7564-500	0.8	0.5	500	5000	0-3000	-40 (-40)	66 (150)	YES	NO	Adhesive or	—
7564-2000	0.2		2000	10 000	0-5000					EZ Mount	—
Model 7570A available for g range from 6000 to 200 000 g.											
VARIABLE CAPACITANCE											
7290A-2	1000	10	2	5000	0-20	-55 (-67)	121 (250)	YES	NO	Screw	5, 8
7290A-10	200		10	5000	0-500						
7290A-30	66		30	10 000	0-800						
7290A-100	20		100	10 000	0-1000						
7290A-150	13		150	10 000	0-2000						
7591-2***	1000	7	2	5000	0-15	-55 (-67)	121 (250)	YES	YES	Adhesive	7
7591-10***	200		10	5000	0-500						
7591-30***	66		30	10 000	0-800						
7591-100***	20		100	10 000	0-1000						
7593-2	1000	40	2	400	0-20	-40 (-40)	121(250)	YES	NO	Screw	3, 7
***** ± 15 VDC input power with DC to 40 Hz response available as Model 7592**											
SERVO											
MSA-100/MSA110	200	40	50	5000	0-500	-55 (-67)	105 (221)	YES	YES	Screw	7

DC ELECTRONICS

MODEL	Input	Channels	Gain	Display	RTO Noise mV rms	Lower -3dB Hz	Upper -3dB Hz	Power	Type of Control	See Page
136	PR	3 or 9/Rack	0 to 1000	DPM	5	0	200 000	AC/DC/BATTERY	Manual/RS-232	13
426	SMART PR	2	0 to 1000	Computer	TBD	DC	150K	AC	RS232 or Ethernet	
436	PR	3-48/Rack	0 to 1000	N/A	5	0	200 000	AC	RS-232/Ethernet	14
4428A	PR	1	10 to 100	DPM	5	0	60 000	AC	Manual	—
4430A	PE/PR/ISO	1 or 10/Rack	1 to 1000	DPM	1	0	100 000	AC	Manual/GPIB	13
4430A-1	PE/PR/ISO	1 or 10/Rack	1 to 10 000	DPM	1	0	100 000	AC	Manual/GPIB	13
4660	PR	4	1 to 100		5	0	20 000	DC/BATTERY	Manual	—

PRODUCT SELECTION GUIDE
Pressure Transducers/Microphones

MODEL	Full Scale Pressure	Sensitivity	Resonant Frequency	Linearity	Min. Temp.	Max. Temp.	Burst pressure diaphragm/ref	Face Diameter	Weight	Mounting Methods	See Page
GAGE/DIFFERENTIAL											
8507C-2	2	150	70000	1.5	-54 (-65)	107 (225)	40/40	2.34 (0.092)	0.3	Adhesive	12
8507C-5	5	60	85000	0.75			100/50				
8507C-15	15	20	130000	0.5			150/50				
8507C-50	50	6	270000	0.5			200/50				
8510B-1	1	200	55000	1.5	-54 (-65)	121 (250)	25/25	3.86 (0.152)	2.3	10-32 UNF	12
8510B-2	2	150	70000	1.5			40/40				
8510B-5	5	60	85000	0.75			100/100				
8510C-15	15	15	180000	0.5			75/75				
8510C-50	50	4.5	320000	0.4			250/250				
8510C-100	100	2.25	500000	0.4			400/300				
8510B-200	200	1.5	320000	0.5			1000/300				
8510B-500	500	0.6	500000	0.5			2500/300				
8510B-2000	2000	0.15	900000	1			10000/300				
8511A-5K	5000	0.1	>1000000	1.5	-54 (-65)	107 (225)	20000	8.13 (0.32)	11	3/8-24 UNF	12
8511A-10K	10000	0.05	>1000000	1.5			30000				
8511A-20K	20000	0.025	>1000000	1.5			40000				
8514-10	10	30	140000	1	-54 (-65)	121 (250)	100/25	1.65 (0.065)	0.08	Adhesive	12
8514-20	20	15	180000	0.5			150/25				
8514-50	50	6	320000	0.5			200/25				
ABSOLUTE											12
8520A-20	20	15	180000	0.5			40/40				
8520A-50	50	6	240000	0.5			100/75				
8520A-100	100	3	280000	0.5			200/75				
8520A-500	500	0.6	900000	0.75			1000/75				
8515C-15**	15	13.3	180000	0.5	-54 (-65)	121 (250)	90	6.35 (0.25)	0.08	Adhesive	12
8515C-50**	50	4	320000	0.5			250				
8530B-200	200	1.5	750000	0.5			800				
8530B-500	500	0.6	1000000	0.5			2000				
8530B-1000	1000	0.3	>1000000	0.5			4000				
8530B-2KM37	2000	0.3	>1000000	1			4000				
8530C-15	15	15	180000	0.5	-54 (-65)	121 (250)	75	3.86 (0.152)	2.3	10-32 UNF	
128530C-50	50	4.5	320000	0.4			250	8530C-100	100	2.25	

GAGE/DIFFERENTIAL - PIEZOELECTRIC

	Pressure psi Static/Dynamic	pC/psi	Frequency	°C (°F)	nominal (in.)	(excluding calbe)	Method	Connecctor Type
522M16	2500/500	12	45 kHz	649 (1200)	0.485	25	Smooth/Case	7/16,THD
522M17	2500/500	12	45 kHz	649 (1200)	0.485	25	Smooth/Case	10-32,THD
522M18	2500/500	12	45 kHz	649 (1200)	0.485	25	.5625-18,THD	10-32,THD
522M19	2500/500	12	45 kHz	649 (1200)	0.485	25	Smooth/Case	5-44,THD
522M20	2500/500	12	45 kHz	649 (1200)	0.312	25	375-24,THD	7/16,THD

MICROPHONES

MODEL	Range db	Sensitivity (mV/ psi)	Resonant Frequency (kHz)	Amplitude Linearity (db)	Minimum Temperature °C (°F)	Maximum Temperature °C (°F)	Burst Pressure db	Face Diameter mm (inch)	Weight gm	Mounting Methods
Piezoelectric										
8507C-2	100 to 190	150	70	±0.5	-54(-65)	107(225)	>197	2.34 (0.092)	0.3	Adhesive
8510B-1	95 to 190	200	55	±0.5	-54(-65)	121(250)	>195	3.86 (0.152)	2.3	10-32 UNF
8510B-2	100 to 190	150	70	±0.5	-54(-65)	121(250)	>197	3.86 (0.152)	2.3	10-32 UNF
Piezoresistive										
2510	100 to >180	793	30	±0.5	-54(-65)	260(500)		20.70 (0.815)	57	Screw
2510M4A	100 to >180	793	30	±0.5	-54(-65)	260(500)		20.70 (0.815)	57	Screw

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