

measurement
SPECIALTIES™

SENSORS FOR TEST AND MEASUREMENT

北京赛斯维测控技术有限公司
美国 **MEAS** 传感器中国代理
Measurement Specialties (China) Ltd.



PRESSURE

POSITION

VIBRATION

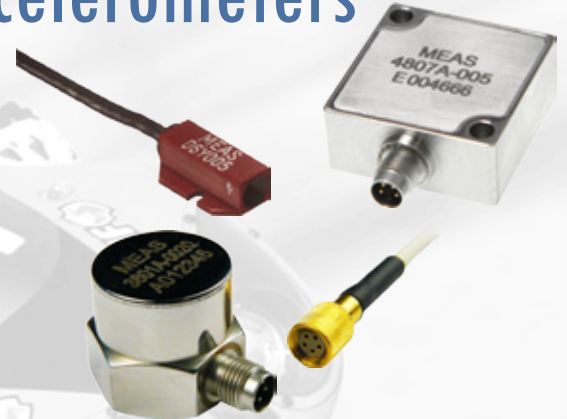
TORQUE AND FORCE

VIBRATION SENSORS

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DC Response (Static/Dynamic) Accelerometers

To measure motion (velocity, displacement) and static/dynamic acceleration accurately, an accelerometer with DC response is required. Using state-of-the-art MEMS technologies and the latest ASIC in their designs, Measurement Specialties' DC accelerometers offer the best-in-class performance and exceptional value. Designed and fabricated in the US, Europe and Asia, our accelerometer products find themselves in many mission critical applications and are embedded in thousands of test & measurement systems worldwide.



Featured Products	Description
52F, Unamplified	Miniature size, shielded cable. Range from 50 to 2000g Full Scale.
3700, Unamplified	Small rugged design for shock and impact testing. Range from 50 to 6000g Full Scale.
EGCS-S425, Unamplified	Critically damped designed for high frequency suppression. Range from 50 to 2000g Full Scale.
4801A, Amplified	Welded stainless steel construction, temperature compensated. Range from 2 to 500g Full Scale.
4807A, Amplified	High resolution (96dB dynamic range), temperature compensated. Range from 2 to 500g F.S.
4630, Triaxial, Amplified	Triaxial, rugged construction, temperature compensated. Range from 2 to 500g Full Scale.

AC Response (Dynamic) Accelerometers



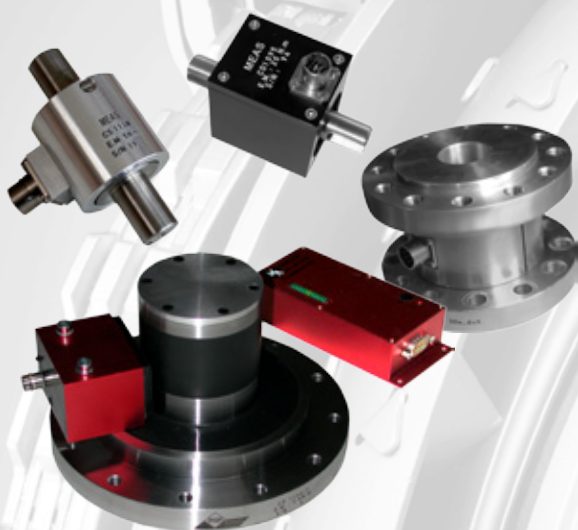
The output of a piezoelectric sensor is AC-coupled by design, and is therefore best suited for dynamic measurements. Voltage mode piezoelectric is the most popular AC accelerometer design due to its high level output and its wide bandwidth. The Integral Electronics PiezoElectric (IEPE) type offers the convenience of using the same two-wire or coaxial cable for power and signal transmission, running in a constant current configuration.

To measure shock and vibration in high temperature environments, a charge mode piezoelectric accelerometer may be needed. They come in various configurations to suit most application environments and are hermetically sealed to maintain their critical high impedance characteristics.

Featured Products	Description
7502A, Charge	Miniature size, 260°C, hermetically sealed. 12kHz bandwidth, titanium housing.
7514A, Charge	High output (50pC/g), 260°C, hermetically sealed. Wide bandwidth, stainless steel housing.
7100A, IEPE	Center screw allows 360° cable orientation, easy installation. 50 or 500g full scale range.
7108A, IEPE	Small size, light weight, adhesive mounting, ground isolated. 50 or 500g full scale range.
7131A, Triax, IEPE	Triaxial, single connector, hermetic, 11mm cube, adhesive mounting. 50 to 2000g F.S. range.
8011 Family, IEPE	Designed for industrial machine monitoring. Submersible and velocity output options available.

TORQUE SENSORS

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Measurement Specialties, Inc utilizes leading strain gauge technologies in its static and dynamic torque sensors to satisfy demanding customer requirements. Solutions are offered for both reaction torque as well as rotating torque measurements. Also offered are combination sensors which simultaneously measure reaction torque and force with a single device. Optionally, sensors can be configured to detect angle position and provide velocity measurements. To ensure reliable data collection over long periods and in harsh environments our torque sensors feature integral mechanical stops that provide protection during mounting and operation. Our non-contact models are well suited for high RPM and temperature environments. MEAS torque sensors are often found in industrial settings requiring immunity to electromagnetic fields and long term reliability.

Featured Products	Description
CD1095	Measures in-line torque on rotating shafts. Excellent temperature stability.
CD1110T	Non-contact dynamic sensor with low torque ranges and high speed (>25 000 rpm) operation.
CD1140	Non-contact torque sensor offered in a small but very rugged package.
CS1060	Reaction torque sensor with optional on-board signal amplification for high level output.
CS1120	Rugged sensor for low static torque measurements.
CS1210	Stainless steel or aluminum housing. Operating ranges to 10 000 Nm (8000 lbf-ft).

FORCE SENSORS

Measurement Specialties, Inc. offers a broad range of compression and tension force sensors for such diverse industries as entertainment, robotics, military, automotive testing, medical instrumentation, plant management, weighing, and process control. Given our breadth of experience in diverse applications, testing professionals often look to MEAS to design or customize sensors for specific uses and testing environments. For turnkey systems that need to work "out-of-the-box", our matched components (sensor and electronics) are formatted, calibrated and ready for immediate use. All force sensors use piezoresistive silicon or bonded foil strain-gage technology for long term reliability, accurate performance over temperature, and ease of customization.



Featured Products	Description
EL20-S458	Seat belt load cell for auto safety applications. Lightweight titanium construction.
FN7325	Multi-component force and torque sensor. Dynamic and fatigue applications.
FN3000	Tension and compression. Ranges from 0-10kN to 0-1000kN (2k lbf to 200k lbf).
FN3148	High accuracy with mechanical stops. Ranges from 0-10N to 0-2kN (2 lbf to 400 lbf).
FN7080	Multi-component force sensor. Designed for gear stick measurement.
XFTC320	Tension and/or compression mode in static and dynamic applications.
XFL212R	Slim design with a temp compensation module integrated into the output cable.

PRESSURE SCANNERS

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Wind Tunnel Research



Pressure Scanners, a term made famous by Pressure System Inc. (a MEAS acquisition), are differential pressure measurement units consisting of an array of piezoresistive pressure sensors. Measurement Specialties groups these sensors in arrays of 16, 32 or 64 channels called "HD" Scanners. The scanners incorporate an internal calibration manifold to assist in removing zero drift with time. We manufacture specific scanner interfaces designed to maximize performance of these pressure scanners. Outputs in Engineering Units can be obtained over TCP/IP for Wind Tunnel or On-Vehicle Research.

Featured Products	Description
16HD	16 Channel Pressure Scanner
32HD	32 Channel Pressure Scanner
64HD	64 Channel Pressure Scanner
PSI INITIUM	Pressure Scanner Interface, 512 Channels
PSI OPTIMUS System Processor	Pressure Scanner Interface, 2048 Channels
8432/8433/8434	Pressure calibration Units

Turbomachinery Testing

Built for durability, ease of use and interchangeability, the NetScanner family of Ethernet based Pressure and Temperature Scanners offer several completely self-contained modules. These devices are splash proof, chemical resistant and rugged enough to withstand a wide range of shock and vibration. Each module is powered using +18 to +36 Volts DC and comes with its own IP Address. Modules are available for Dry or Wet Pressures and Temperatures, including Barometers and Pressure Calibration devices.



Featured Products	Description
9116	16 Channel Pressure Scanner for dry/non-corrosive media
9022	12 Channel Pressure Scanner for wet media compatible with stainless steel
9816	16 Channel Pressure Scanner in rack mount configuration
98RK	Pressure Scanner Rack
9146	16 Channel Temperature Scanner for RTD, VDC, thermocouples
9032 / 9034 / 9038	Barometer & Calibration Units

PRESSURE SENSORS

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Miniature Size

Measurement Specialties' miniature pressure sensors employ a full or half active Wheatstone Bridge consisting of piezoresistive strain gages using the best-in-class technologies specific to the applications. Sensor output sensitivity is ratiometric to the power supply voltage in the unamplified designs, or a built-in amplifier converts the mV output into high level signal suitable for driving long line. The miniature design and numerous options available for these sensors allow them to be easily installed in challenging applications such as flight testing, motorsports, space exploration, robotics, marine testing, wind tunnels and biomechanical research.



Featured Products	Description
EB100	Low cost, stainless steel welded housing with amplified output
EPB	Stainless steel, flush mount design for general media.
EPIH	Extremely small diameter for dynamic and high frequency measurements.
EPX	Threaded sensor with stainless steel flush diaphragm for static and dynamic pressure.
EPRB-2	100% stainless steel welded construction with amplified output.
XPCM10	For liquid media and 220°C operation. Low zero shift due to torque sensitivity.

Ultrastable™ and Bonded Foil

Our UltraStable™ pressure transducers set the performance standard for demanding applications where high accuracy is required. This series is suitable for measurement of liquid or gas pressure, even for difficult media such as contaminated water, steam, and mildly corrosive fluids.

Measurement Specialties' Bonded Foil Strain Gauge Pressure Transducers are constructed from media compatible 17-4 PH Stainless Steel or Inconel 625 to provide exceptional performance in extreme environments. Particularly suited to extreme applications where high cycle duty, transient pressure, or hydraulic hammer are a concern. Unique constructions of the Bonded Foil Strain Gauge Pressure Transducer include mechanical over-travel stops, fatigue enhanced diaphragms and digital compensation technology.



Featured Products	Description
D5100, UltraStable™	Differential configuration, 2 pressure ports, 0-1 to 500 PSI.
U5100, UltraStable™	Total error band of 0.75%, 100 V/m EMI protection, 0-15 to 10K PSI.
US10000, UltraStable™	Total error band of 0.25%, IP65, NEMA4, 0-5 to 10K PSI.
US300, UltraStable™	Low cost, compact, 3 X proof pressure, 0-15 to 5K PSI.
P700, Bonded Foil	Low and high level outputs. High overload protection, 0-10 to 10K PSI.
P900, Bonded Foil	High temperature operation. Welded construction, 0-10 to 10K PSI.
P1200, Bonded Foil	Wide compensated temperature range. Six pressure port options, 0-75 to 10K PSI.

POSITION SENSORS

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LVDTs, Gage Head, & Linear Potentiometers

Our AC operated LVDT's (Linear Variable Differential Transformers) are the first choice in linear position sensing in hostile environments.

DC operated LVDT's have built-in signal conditioning electronics and do not require calibration or special signal conditioning. These LVDT sensors can be powered with uni-polar DC voltages or bi-polar DC voltages and have scaled DC voltage, current or digital outputs.

Our linear potentiometers (voltage divider output) offer unrivaled performance in an amazingly small size. They operate over a broad temperature range and have operating life >25 million cycles.



Featured Products	Description
DC SE Series LVDT	Operates from single-ended, Unregulated 8.5–28 VDC supply. CE certified.
M12 Series LVDT	Excellent stroke to length ratio. Ranges from ± 5 mm to ± 150 mm.
Digital LBB System	14-bit ultimate-precision digital LBB gaging inspection system.
GCA Gage Heads	Resistant to harsh environments. MS type connector (MIL-C-5015).
GCD SE Gage Heads	Unipolar ranges: 2.5 mm to 50 mm. Battery option ideal for portable applications.
MLP	Miniature Linear Pot, IP65, Range to 150 mm. Stock item!

Cable Extension Transducers

Measurement Specialties' cable-extension transducers (stringpots) are very easy to install and small in size. They are linear to 0.1% or better, and make full scale measurements from 1.5" (38 mm) to 1700" (43 m).

They measure aircraft wings deflection, truck suspensions bounce, motorcycles brake, bridges sway. They survive hurricanes and earthquakes, guns recoil, and car crashes. MEAS stringpots make displacement measurements easy. Lot's of options to choose from, readily available.



Featured Products	Description
MT2A / MT3A	Compact size, range to 30", 0.1% linearity, IP67, NEMA-4. Adjustable for 2-axis.
PT101 / DV301	Classic structural test sensor. Ranges to 100" / Velocity output.
SM / SP	Stock item! Super Compact. Ranges to 25" / 50", 0.25% linearity.
PT1	0-10V and 4-20mA output. Spring-loaded cable guide.
M150	World's smallest stringpot! Range to 1.5".

POSITION SENSORS

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Tilt Sensors and Inclinometers

Measurement Specialties' dual axis tilt sensors and inclinometers use fluid filled capacitance, MEMS, or conductive technology for measuring ranges from $\pm 2^\circ$ up to $\pm 90^\circ$ inclination in both the X- and Y-axis. They are extremely rugged transducer designs capable of functioning during and after severe shock loads and vibration. Version with USB connection allows direct interface with laptop computer, perfect for plug & play measurements. Our digital Protractor System offers remote measuring capability in a convenient easy-to-read package.



Model	Description
D-Series Inclinometer	High accuracy, $\pm 5^\circ$ up to $\pm 30^\circ$ range, with analog and digital outputs, CAN interface.
DPG-Series Inclinometer	High accuracy, $\pm 5^\circ$ up to $\pm 30^\circ$ range, with analog voltage and digital RS232 output.
DOG2-USB Inclinometer	USB powered, dual-axis with $\pm 90^\circ$ range. 12 bit resolution, economical.
Anglestar® Protractor System	Battery or line powered, remote angle measurement indicator with digital display.

SIGNAL CONDITIONERS & ACCESSORIES

To facilitate true plug & play operation, Measurement Specialties offers an extensive line of signal conditioners, power supplies and amplifiers. From universal charge amplifiers for piezoelectric accelerometers, bridge type signal conditioners for pressure transducers, load cell and torque sensors, and dedicated digital indicators for LVDT and tilt sensors, these instruments are specially designed to match the characteristics of our sensors to bring you the best possible system performance. We also offer cable assemblies and mounting accessories for your convenience. Should you require periodic re-calibration of your sensors, our regional calibration facilities are fully equipped to satisfy your needs.



Signal Conditioner Model	Description
140 Series Inline DC Amplifier	In-line amplifier module with manual or remote auto zero function, five gain settings.
121 DC Amplifier	3-channel bench-top DC amplifier. Low noise, wide bandwidth, economical.
161 Charge and IEPE Amplifier	4-ch bench-top charge & IEPE amplifier. Low noise, built-in filters, A/V/D outputs.
ARD154 DIN Rail Amplifier	DIN rail DC amplifier $\pm 10V$ or 4-20mA output. 2kHz or 20kHz bandwidth.
MP2000 Controller	Microprocessor based LVDT indicator and set-point controller



我们的传感器通常都用于其应用设备的最关键部位。因而，我们的客户倚仗于MEAS，和MEAS传感器的每一次精确测量。在精量电子，我们从设计，生产，到客户反馈的每一个细节都用最高的品质标准要求自己，我们所有的产品都有行业领先的品质认证做保障。

质量认证:

- ◇ AS/EN 9100
- ◇ ATEX
- ◇ ATEX 949EC
- ◇ CE-MDD
- ◇ CMDR - Health Canada
- ◇ EN 13980
- ◇ ESA 266
- ◇ ESCC266E
- ◇ ESCC 400C
- ◇ FDA
- ◇ ISO 13485
- ◇ ISO 14001
- ◇ ISO 9001
- ◇ MID
- ◇ Measuring Instruments Directive 2004/22/EC annex D
- ◇ NASA Qualified
- ◇ NSF-61 Water Quality
- ◇ PART21G
- ◇ TS 16949

MEAS 传感器全球总部:
Measurement Specialties, Inc.
1000 Lucas Way
Hampton, VA 23666
+1 757 766 1500

MEAS 传感器欧洲总部:
MEAS Europe
Impasse Jeanne Benozzi CS 83163
31027 Toulouse Cedex 3
+33 582 082 200

MEAS传感器中国代理:
北京赛斯维测控技术有限公司
北京市朝阳区望京西路48号
金隅国际D座302
邮编: 100102
电话: +86 10 84775646 84775648
传真: +86 10 58949029

www.sensorway.cn
sales@sensorway.cn
NASDAQ: MEAS

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