

HBM Test and Measurement

Your Partner When Measurements Matter



HBM Global

HBM is a company in the Spectris PLC Group, a specialist in Instrumentation and Control, with 7600 employees and a turnover of over 1.4 billion euros.

Established in over 60 countries, HBM boasts a workforce of over 1,500. HBM develops and manufactures its products at its seven locations in Europe, China and the US. For over 65 years, HBM has earned itself a global reputation in its three key competencies: flexibility, precision and innovation.

Today, as a leader in the measurement technology market, HBM is synonymous with quality, and offers all of the components in the measurement chain.

Around the world, our clients rely on our solutions to guide their design, development, production and maintenance, to optimize their product life cycles.

HBM North America

HBM has provided exceptional test and measurement products used in a variety of testing applications in North America for over 40 years.

In addition to the US headquarters in Marlboro, MA, there are facilities in Champaign, IL, Madison, WI, and Southfield, MI. Regional sales and application engineers are available throughout the country to offer the local support you need, whether it be for data acquisition, strain gauges, sensors, analysis software, and much more!

Here are some testimonials from just a few of HBM's happy customers:

"HBM's hardware and software combination gives us the flexibility we need to perform tests ranging from a few channels at high speed to large channel counts."

Steve Voth, Cessna Aircraft Company

"HBM is a respected partner for CRH, delivering high-quality products. We appreciate the support and competent advice from HBM."

Horst Schulz, C. Rob. Hammerstein

"The eDAQ has consistently produced reliable test data for Sims Professional Engineers (SPE), even in the harshest conditions. It has proven to be a worthwhile investment for SPE."

Cody Kasten, Sims Professional Engineers



Darmstadt, Germany



Marlboro, MA, USA

A full range of conventional and optical gauges to measure strain and monitor structures.

Strain Gauges

Primarily used in experimental stress analysis, HBM strain gauges are available in different geometric configurations: linear, rosettes and chains of different lengths. HBM carries hundreds of models in stock for immediate delivery. A complete line is also available for sensor production.

Optical Gauges

Operating on the Fiber Bragg Grating (FBG) principle and well suited for applications with electromagnetic interference, these optical gauges have a high resistance to fatigue and can be extremely beneficial when there are long distances between measurement points.

Accessories

HBM offers all accessories necessary for adhesion and protection of strain gauges.

A unique range of force, torque, pressure, and displacement sensors for industrial and laboratory applications.

Torque – 0.1 Nm to 5 MNm

A global standard in test benches, HBM offers a line of analog and digital torque sensors for precise and reliable measurement of torque, even at speeds up to 40,000 rpm

Force – 10 N to 5 MN

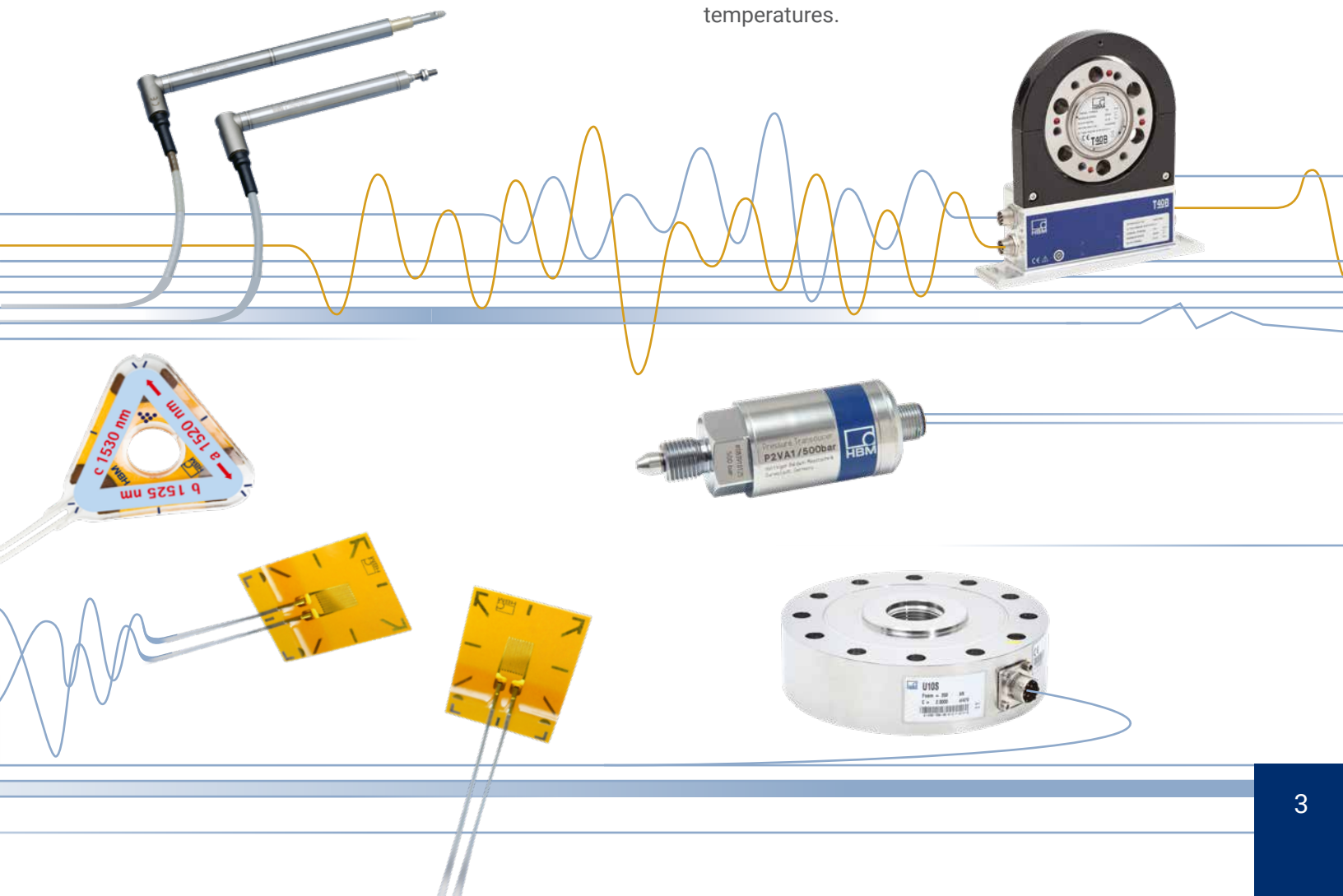
HBM offers force transducers for industry testing and research that guarantee reliable force measurements.






















Pressure – 10 to 15000 bar

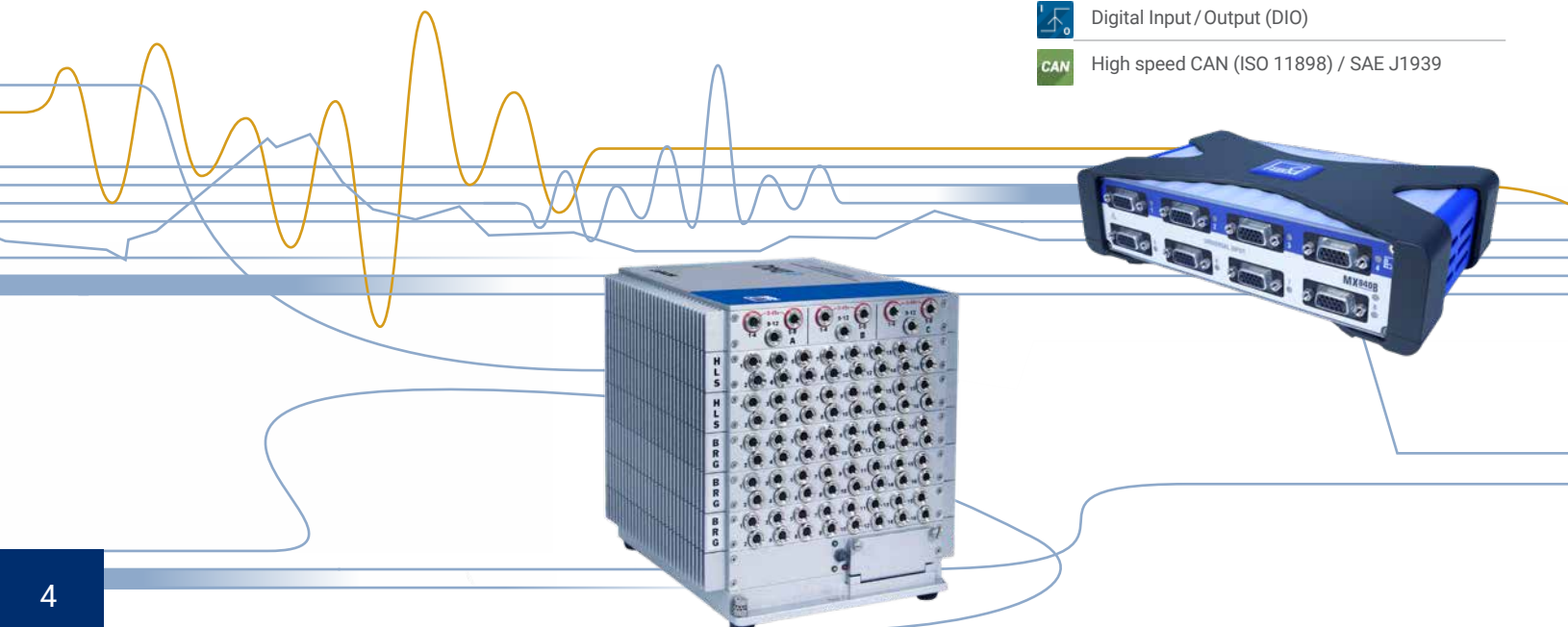
The monolithic sensors are capable of supporting a very large number of cycles with extremely dynamic phenomena as well as measuring static pressure value with a very high degree of stability and precision.

Displacement – 2 to 500 mm

HBM offers inductive displacement sensors suitable in industrial applications and monitoring structures. These can be built into actuators, and handle a broad range of temperatures.



	Proven centralized system for harsh environments	Universal acquisition system for laboratory conditions
Field of Application	Vehicle and off-highway Harsh environment testing Stand-alone applications Military Petrochemical, energy, civil engineering, etc.	Dynamometer stands Static and dynamic laboratory load testing Test bench: Function & performance Maintenance and service Road Load Data Acquisition
Sample Rate	Up to 100 kS/s per channel	20 kS/s to 200 kS/s per channel
Transducer Technologies	<div>  Strain gauge quarter, half or full bridge circuit </div> <div>  Current-fed piezoelectric transducers (IEPE/ICP®) </div> <div>  Thermocouples (types K, T, E, J) </div> <div>  Potentiometric transducers </div> <div>  Voltage (± 100 mV, ± 10 and ± 80 V) </div> <div>  Frequency, counter, incremental rotary encoder (incremental with/without index), SSI </div> <div>  Digital Input / Output (DIO) </div> <div>  High speed CAN (ISO 11898) / SAE J1939 </div>	<div>  Strain gauge quarter, half or full bridge circuit </div> <div>  Current-fed piezoelectric transducers (IEPE/ICP®) </div> <div>  Piezo-resistive full bridge circuit </div> <div>  Thermocouples (types K, N, R, S, T, B, E, J, C) </div> <div>  Resistance thermometers (PT100, PT1000) </div> <div>  Ohmic resistor </div> <div>  Potentiometric transducers </div> <div>  Inductive half or full bridge circuit, LVDT </div> <div>  Voltage (± 100 mV, ± 10 and ± 60 V) Isolation: 1000 V CAT II / 600 V CAT III </div> <div>  Current (0 to 20 mA) </div> <div>  Frequency, counter, incremental rotary encoder (incremental with/without index), SSI </div> <div>  Digital Input / Output (DIO) </div> <div>  High speed CAN (ISO 11898) / SAE J1939 </div>



SOMAT^{XR}**MGCplus****Genesis**
HIGH SPEED**Modular system for harsh environments**

Vehicle and off-highway

Harsh environment testing

Stand-alone applications

Distributed Testing

Civil engineering, etc.

20 kS/s to 100 kS/s per channel

Rack-mount system for high channel counts

Functionality, power and life-cycle stands

Calibration

Experimental stress analysis

Aerospace structural testing

Up to 19.2 kS/s per channel

High speed, high channel count transient signal recorder

Electric and hybrid vehicle testing

Turbine and rocket test stands

Destructive material testing

Energy and high-voltage technology

Environmental testing

20 kS/s to 100 MS/s per channel (Continuous streaming data acquisition at up to 400 MB/s)



Strain gauge quarter, half or full bridge circuit



Current-fed piezoelectric transducers (IEPE/ICP®)



Piezo-resistive full bridge circuit



Thermocouples (types K, N, R, S, T, B, E, J, C)



Potentiometric transducers



Inductive half or full bridge circuit, LVDT



Voltage (±100 mV, ±10 and ±60 V)



Current (0 to 20 mA)



Frequency, counter, incremental rotary encoder (incremental with/ without index), SSI



Digital Input / Output (DIO)



High speed CAN (ISO 11898) / SAE J1939



Strain gauge quarter, half or full bridge circuit



Current-fed piezoelectric transducers (IEPE/ICP®)



Thermocouples (types K, N, R, S, T, B, E, J, C)



Potentiometric transducers



Inductive half or full bridge circuit, LVDT



Voltage (±100 mV, ±10 and ±60 V)



Current (0 to 20 mA)



Frequency, counter, incremental rotary encoder (incremental with/ without index), SSI



Digital Input / Output (DIO)



High speed CAN (ISO 11898) / SAE J1939



Strain gauge quarter, half or full bridge circuit



Current-fed piezoelectric transducers (IEPE/ICP®)



Piezo-resistive full bridge circuit



Potentiometric transducers



Voltage (±100 mV, ±10 V, ±60 V and ±1 kV)



Current (0 to 20 mA)



Frequency, counter, incremental rotary encoder (incremental with/ without index), SSI



Digital Input / Output (DIO)



Optically-isolated digitizer



Industrial Electronics

Control and process solutions: HBM offers a variety of proven and reliable solutions. Benefit from HBM's expertise in high-precision sensors and measurement.

Optical Interrogators

Utilizing optical fibers to make measurements where traditional technologies face environmental challenges such as:

- Long cable runs
- EMI interferences
- Lightning susceptible applications
- High stress levels ($\pm 10,000 \mu\text{E}$)
- Long term structural health monitoring
- Multiple chains of FBG sensors per optical fiber

Industrial Systems

Numerous types of electronics, ranging from simple mono-channel analog conditioners to real-time multichannel digital systems. These are easy to integrate into production and control chains without compromising measurement quality. HBM carrier frequency technology also allows you to install strain gauge sensors in the harshest environments.

Signal Conditioners

Digital and analog signal conditioners for production controls and manufacturing. HBM carries modular data acquisition systems for complete signal conditioning, amplifiers with analog output, amplifiers linked to a fieldbus, and powerful professional software for production.

Software

From sensor to report: HBM, your one-stop manufacturer for the entire measurement chain, has developed its own line of software meeting the demands of measurement experts.

Data Acquisition

Catman: A single tool that allows full parameterization of all channels, visualization and control of test and measurement tasks. Quickly set up, run tests, and analyze data through a user friendly interface.

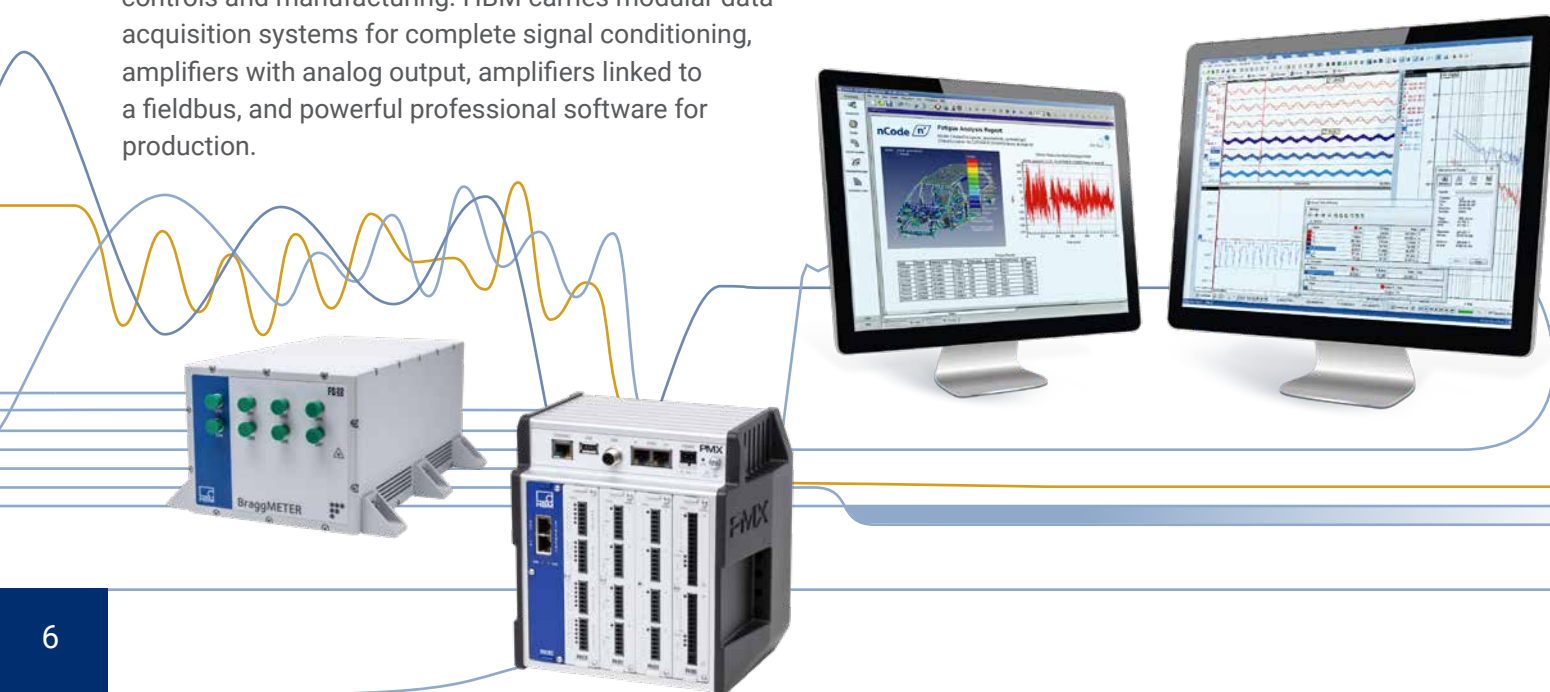


Perception: Professional software for high-speed measurements and analysis. Perception helps to quickly and reliably acquire measured data with maximum sampling rates and customized reporting. No special programming knowledge is required.



Analysis & Simulation

Easily visualize, process, and manage data. nCode software enables engineers to perform test analysis, CAE fatigue evaluation, analyze acoustics and vibration test data, automate analyses and manage processes.



HBM Activities and Services

To meet all of your measurement needs, HBM is your partner when measurements matter – offering you a range of solutions "from sensors to test reports": sensors, strain gauges, amplifiers, data acquisition, industrial electronics, and software.

HBM has a proven track record working with Fortune 500 industrial companies, laboratories, engineering/research firms, and universities in the following sectors:

- Automotive, Aeronautics, Railway, Marine
- Steel, Metalworking, Construction, Civil Engineering
- Energy, Electricity, Gas, Petroleum
- Agriculture, Food
- Pharmaceutical, Medical
- Chemical, Petrochemical

HBM offers a variety of services to meet the needs of measurement system users. With decades of experience in the test and measurement segment, our teams of engineers and technicians are there to help you in every stage of your projects.

- Measurement Engineering and Applications
- HBM Sensor Calibration Services
- Seminars, Onsite Training Programs and Webinars
- Complimentary Technical Support

Benefit from the expertise of a global supplier for your entire measurement chain.



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measure and predict with confidence

