

OEM Custom-designed Sensors

...from the leader in the measurement
of mechanical parameters



OEM Custom-designed Sensors



Take advantage of HBM's unique capability to provide you with customized sensor solutions.

Caught in a design dilemma?

Are you looking for sensing technology that meets your unique requirements?

Do you need to accurately measure:

- Strain
- Stress
- Force
- Load
- Volume
- Torque
- Displacement
- Pressure
- Temperature
- Linear or angular deflection
- Fatigue
- or acceleration?

Are you looking to add sensing capability to your products for the first time?

Are you looking for more than just a sensor?

Are you looking for a complete customized measurement solution including sensor, electronics and software?

Look no further than HBM..

A world of sensing technologies available to you!

Adapting different sensing technologies to a wide variety of applications is our business. To match your specific needs, HBM can draw on a vast selection of technologies that we use daily in development of our own products.

- Foil strain gages
- Thin film gages
- Hybrid gage technology
- Inductive technology
- Ceramic capacitive sensor elements
- Miniaturized signal conditioning electronics.





Miniature half-bridge displacement sensors, and miniature strain gage pressure sensors.



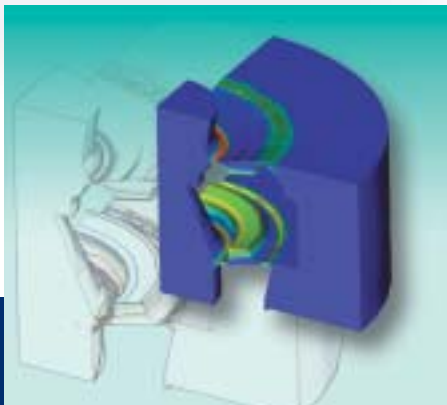
Double bending beam sensors for monitoring force in medical infusion devices.

Fast prototyping to volume manufacturing. Your sensor, just-in-time!

Our OEM Sensor Team will work closely with you every step of the way. From problem definition to conceptual design, to design verification, validation and release to volume production - our experienced team will be there to ensure the success of your project.



Miniature transducers for force and pressure measurement.



Fast prototyping using Finite Element Analysis (FEA) ensures an exceptionally short development cycle.



Force feedback sensor for aircraft flight control system.

HBM's comprehensive design, testing and manufacturing capabilities include:

- Custom-designed sensor body geometry, material and enclosure
- Strain gage installation including calibration and temperature compensation
- Custom-designed signal conditioning electronics
- Special electronics for sensor digital outputs or programmable measurement parameters.



Textile tension sensor with customized enclosure and integrated signal conditioning electronics.

We're all about your application

You can benefit from HBM's proven track record of delivering sensing solutions to challenging applications across virtually all industries worldwide.

You will enjoy the highest possible quality workmanship, fast turnaround, and friendly, reliable service. That is why the HBM name is synonymous with "Measurement With Confidence".

Here are just a few of the many industries and applications served with HBM custom-designed sensors:

- ___ Automotive and surface transportation industries
- ___ Aerospace industry
- ___ Medical device and pharmaceutical industries
- ___ Packaging and bottling industries
- ___ Textile and web tension applications
- ___ Automation, robotics and assembly applications
- ___ Appliance industry
- ___ Vending machine applications
- ___ Computer, display and joystick applications
- ___ And, many, many more.



Torque transducer used in test and calibration equipment.

For more than 50 years, HBM has been a global leader in measurement technology products and solutions for industrial test and measurement applications.

Our complete measurement solutions – from sensor to software – for industrial and laboratory use are the solutions of choice for leading companies worldwide in the automotive, aerospace, marine, rail transport, medical equipment, packaging, appliance, automation and scale industries, and universally across R&D.

HBM provides leading edge technology in high-precision strain gages, load cells, transducers, signal conditioning electronics and state-of-the-art data acquisition software.



Custom membrane sensors for hydraulic pressure measurement in off-road vehicles.



World-class manufacturing at your doorstep

HBM's world-class ISO 9000 certified engineering and manufacturing facilities are the key to our success. Our facilities in Marlborough, Massachusetts, Darmstadt, Germany and Suzhou, China ensure that we can engineer and manufacture your product as needed to get it to market as quickly, efficiently and economically as possible.



Custom sensor and display unit used in patient weighing system.

Our comprehensive in-house capabilities mean faster and more precise results for you. Our facilities and equipment include:

- Temperature and humidity-controlled manufacturing and laboratory facilities
- Design and modeling software tools for CAD, CAE, and FEA, as well as stereo-lithography laser modeling
- Large ultra-stable curing ovens
- Large and small temperature testing ovens
- Certified transducer calibration instrumentation
- Hydraulic and deadweight testing rigs
- Torque testing rigs
- Fatigue and residual stress testing equipment
- Fully-equipped, modern CNC machine shop for high-precision parts, adapters, and accessories.



Strain gages are applied with the utmost precision to guarantee transducers of optimal quality.

From sensor to software

Whatever your measurement need, HBM's wide assortment of sensors, transducers, signal conditioning and data acquisition electronics, and software can be configured to provide you with an exact measurement solution.



For further information please visit our web site at:

www.hbm.com

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