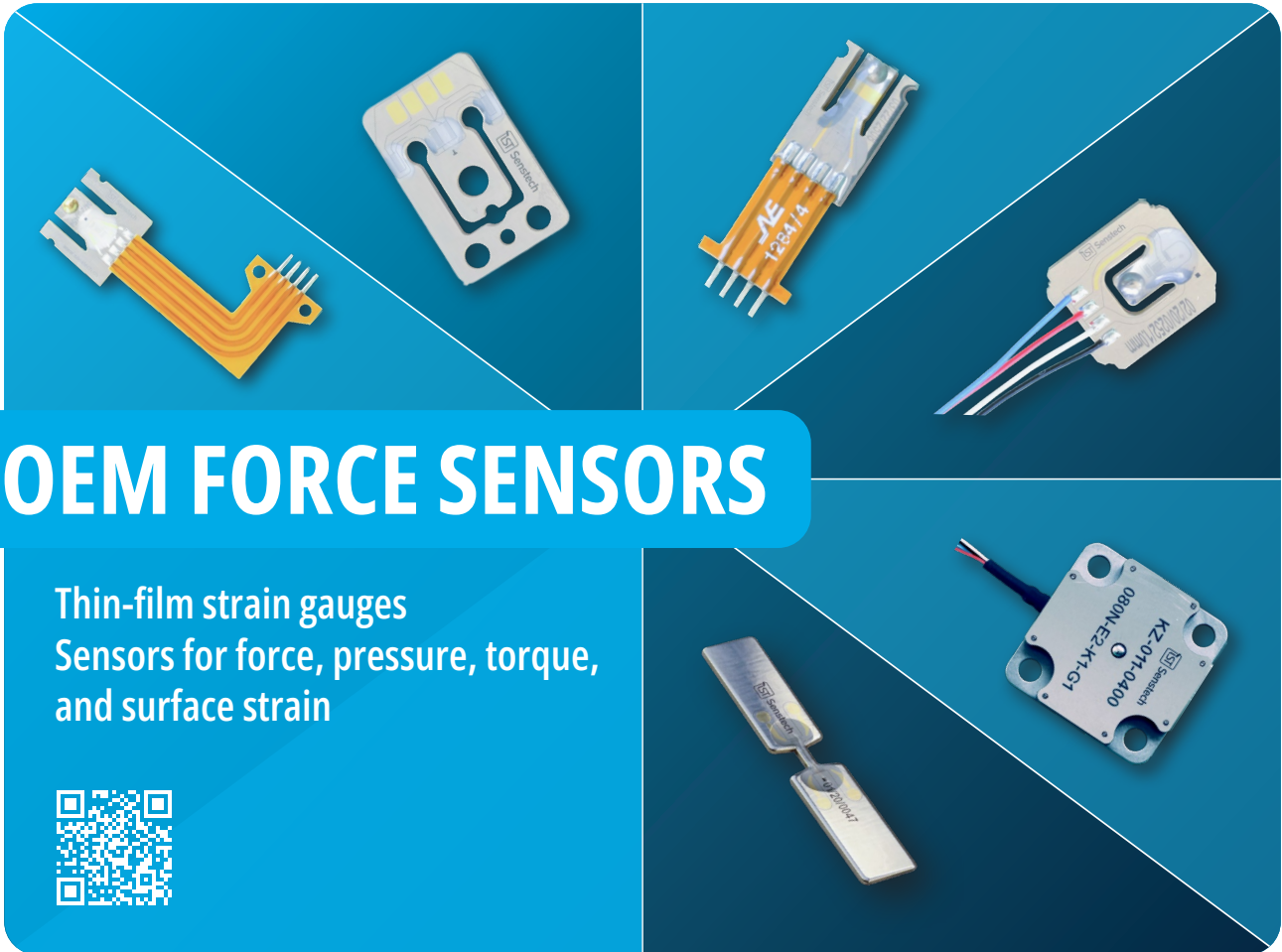





Senstech

innovative
Sensor
Technology



OEM FORCE SENSORS

Thin-film strain gauges
Sensors for force, pressure, torque,
and surface strain




sensing what matters

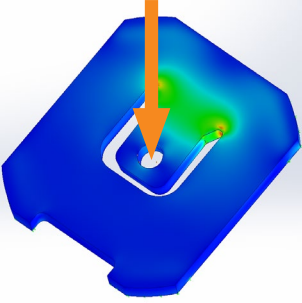



PRODUCTS


FEATURES



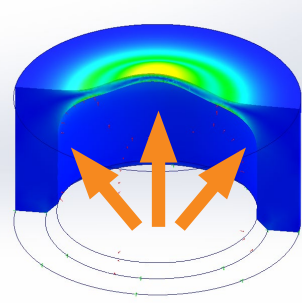

Force


Scalable measurement range of up to **10 kN**



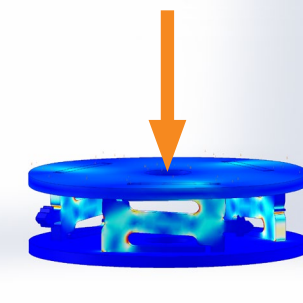
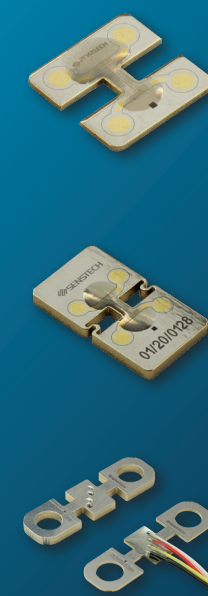
Pressure

Scalable measurement range from **2 to 2000 bar**



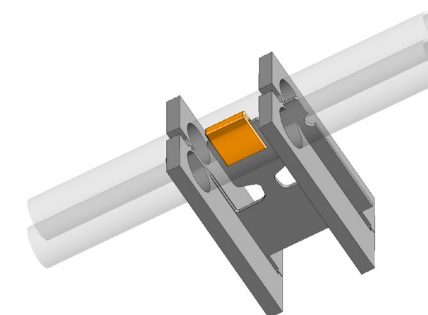
Surface strain & gauge

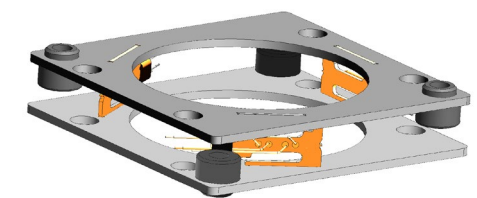
Measurement range of up to **1000 $\mu\epsilon$**

- Miniaturization
- Scalability with high process reliability
- Easy integration

- Simple signal processing
- Very good linearity
- Long-term stability, drift < 0.03%/a
- Temperature stability, drift < 0.01%/K
- No systematic creep effect

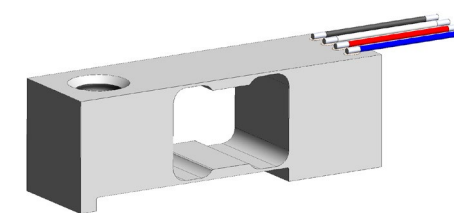


Non-contact, indirect pressure measurement

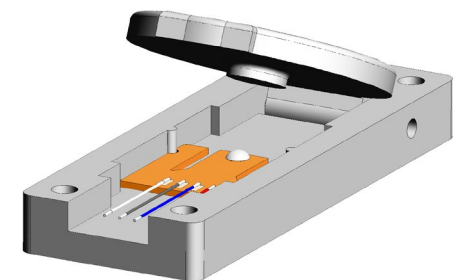


Miniature load platform designed for precision sensing

Examples for easy integration



Miniature load cell based on thin-film technology



Simplified sensor fixation in engineered plastic parts

Notes

Force creates deformation

- Our sensors comprise insulated metal structures that are deposited onto metal substrates using **highly automated thin-film processes**
- At the point of deformation, the metal meanders form a full Wheatstone bridge circuit
- When mechanical stress is applied, the length of these metal lines – and thus their resistance – changes. This generates the sensor signal
- **Our optimized layout** compensates for temperature effects, reduces cross-sensitivity, and improves long-term stability

CUSTOMIZED SENSORS

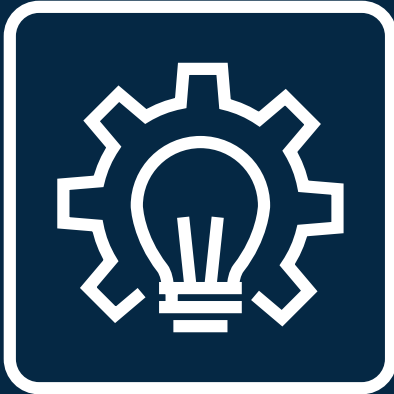


Customized sensors for your application

Our agile iteration loops enable our customers to better understand, adapt and develop their applications more quickly.

- We jointly analyze the application and define requirements
- We design the sensor accordingly
- We produce prototypes within a few weeks through our extensive in-house manufacturing capabilities
- We rapidly refine the sensor design based on customer feedback

Senstech offers custom sensors for force, pressure, surface strain and gauge.



OUR TECHNOLOGY



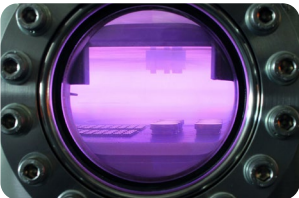
Process reliability

CUSTOMIZED SENSORS

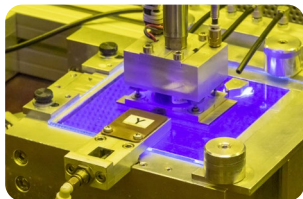
From prototype
to volume manufacturing



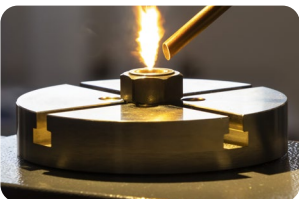
Laser cutting &
Laser drilling



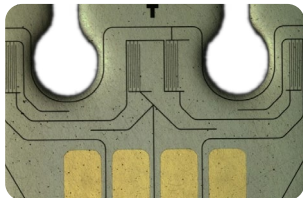
Sputtering



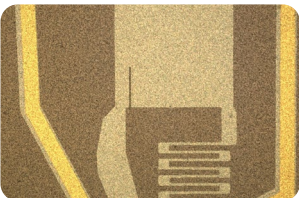
Lithography



Laser welding



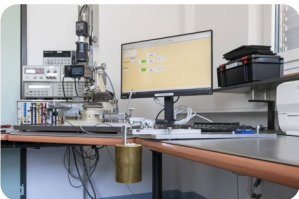
Laser ablation &
structuring



Laser trimming



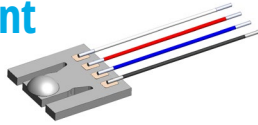
Soldering



Measurement &
control

EVERY HEARTBEAT COUNTS

Hardness measurement in cardiotocography

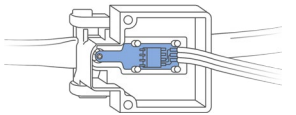


- Challenge**
Monitoring contractions during childbirth.
- Solution**
A compact sensor mounted in a plastic housing with a round rivet head for force application.



NOT ALL HEROES WEAR SCRUBS

Pressure surveillance in peristaltic pumps

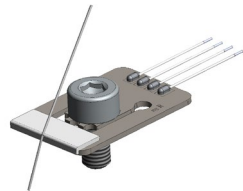


- Challenge**
Detecting kinks in the tube or complications at the puncture site.
- Solution**
A force sensor is laterally applied onto a silicone tube which is only allowed to expand in the direction of the sensor.



NO THREATS FROM THREADS

Yarn tension monitoring

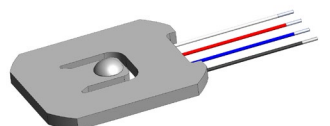


- Challenge**
Measuring yarn tension in textile production.
- Solution**
A tailored sensor which simultaneously guides the yarn and monitors the tension.



PEACE OF MIND

Manipulation aid in insulin pumpse



- Challenge**
Enabling the device to verify whether the ampoule has been inserted correctly.
- Solution**
A customized force sensor measures the contact pressure on the plunger of the pump.



MEDICAL



SAFETY ENGINEERING



AUTOMATION



PROCESS CONTROL

SENSING WHAT MATTERS



Who we are

- **Manufacturer and developer of thin-film strain gauges**
All key development and production steps are carried out in our own facilities in Switzerland.
- **Together is how we work best**
We are passionate about sensing and create solutions that best fit the application's needs.
- **Reliable partner in MedTech and beyond**
We ensure safety and performance in a wide range of applications.
- **Fast & agile**
Our fast provision of functional prototypes supports our customers in testing and refining their solutions quickly.
- **Part of the Endress+Hauser Group**
Supported by family-driven values.

Certified according to
ISO 9001 and ISO 13485



YOUR GLOBAL SUPPLIER OF OEM FORCE SENSORS



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