

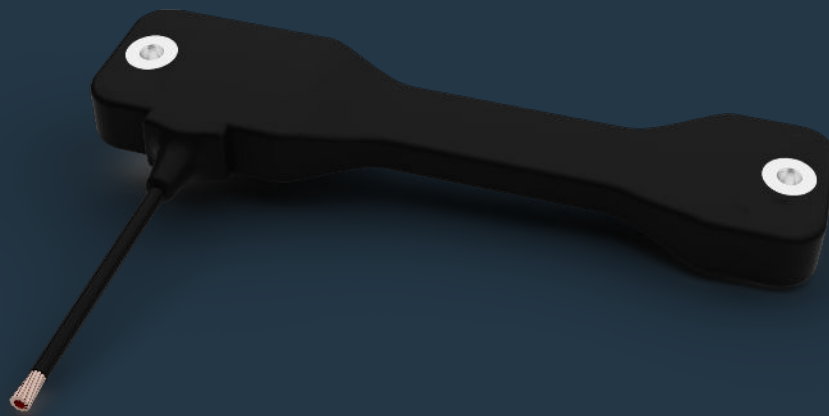


SENSOR TECHNOLOGY

Product portfolio

Flexible sensing. Reliable data.

Built for demanding industrial, structural and R&D applications.



DEVELOPED, DESIGNED AND PRODUCED IN DENMARK

SENSING MADE FOR THE REAL WORLD

Robust sensor technology - with flexibility built in.

ElastiSense Sensor Technology develops capacitive sensor solutions based on elastic materials and integrated electronics. The technology is designed to provide dependable measurement while simplifying installation, protection and maintenance in applications where conventional rigid or mechanical sensing can be difficult.

- Solid-state design
- IP68 DS construction
- Over-stroke tolerant
- Misalignment tolerant
- Multiple signal outputs
- Custom solutions

From standard products to tailored sensor solutions

Our sensor technology is used across structural health monitoring, factory automation, heavy and off-road vehicles, wearables, medical applications, sports performance, geotechnical monitoring and development projects. We can adapt dimensions, range, output, materials and integration to fit the measurement challenge.

DS DISPLACEMENT SENSORS

One rugged platform. Five measuring ranges.



DS5

5 mm nominal measuring range



DS20

20 mm nominal measuring range



DS50

50 mm nominal measuring range



DS100

100 mm nominal measuring range



DS250

250 mm nominal measuring range

RUGGED, FLEXIBLE DISPLACEMENT MEASUREMENT



The DS Series combines solid-state capacitive sensing with a flexible silicone-rubber encapsulation. The sensor is bendable, tolerant to over-stroke and considerable misalignment, and designed for harsh industrial and outdoor environments.

Specification	DS Series
Measurement ranges	5 / 20 / 50 / 100 / 250 mm
Power supply	2.5-5.25 V or 12-24 V
Signal outputs	4-20 mA, 0-5 V, 0-10 V, RS-232 or RS-485
Accuracy	0.5% F.S.
Resolution	0.01% F.S.
Update rate	1,000 updates/second
Temperature coefficient	<0.01% F.S./°C
Operating temperature	-40 to 85°C or -40 to 105°C, depending on version
Protection	IP68 equivalent
Colours	Black, white, grey; other colours on request

DIGITAL DS

RS-485 / RS-232

Displacement + temperature readout



Digital DS Sensors bring direct serial communication to the DS platform. Alongside displacement, the sensor can provide temperature data, while the displacement measurement remains environmentally compensated. This supports straightforward integration into connected monitoring, automation and control systems.

Key feature	Digital DS
Communication	RS-485 or RS-232
Measured values	Displacement and temperature
Compensation	Built-in environmental / temperature compensation
Mechanical platform	Flexible, solid-state DS construction
Protection	IP68 equivalent
Typical use	Infrastructure, machinery, vehicles, automation and distributed monitoring

Condition monitoring | Predictive maintenance | Damage prevention | Feedback control

MEASUREMENT WHERE CONVENTIONAL SENSORS STRUGGLE

Infrastructure

Bridges, roads, railways, tunnels, buildings and geotechnical structures. Monitor cracks, joint movement, deflection and long-term structural displacement.

Heavy machinery

Construction, mining, lifting and industrial equipment. Measure movement, wear, deformation and component position in exposed environments.

Production machinery

Position, deflection and feedback measurements for factory automation and production equipment, with minimal need for protection or cleaning.

Heavy & off-road vehicles

Suspension, chassis, steering, hydraulics and structural movement on vehicles exposed to dirt, water, vibration and demanding duty cycles.

STRETCH SENSOR TECHNOLOGY

Highly repeatable sensing for elastic movement.



ElastiSense Stretch Sensors are elastic capacitive sensors that respond to elongation. They are flexible, thin and lightweight and can be integrated into deformable structures or used in wearable and R&D; applications. Standard variants include sensors with embedded electronics and USB-connected versions.

Product characteristic	Stretch Sensor
Sensor principle	Capacitive, elastic stretch measurement
Variants	Embedded electronics or bare capacitive sensor / USB product variants
Key qualities	Flexible, conformable, thin, lightweight, responsive and customisable
Typical applications	Wearables, breathing, joint motion, geotextiles, membranes and large deformation measurement

CAPACITIVE STRAIN GAUGES

Hyperelastic strain measurement.



Unlike conventional rigid strain gauges, ElastiSense gauges are made from silicone elastomer. They can be glued or embedded onto or into many substrates and host materials, are elastic in all directions, and use capacitive sensing for repeatable measurement in challenging applications.

Product characteristic	SG Series
Construction	Hyperelastic silicone-elastomer capacitive strain gauge
Variants	With electronics converting capacitance to voltage, or bare capacitive gauge
Integration	Can be glued or embedded onto / into a wide range of materials
Application examples	Transport dampers, wearables, antivibration systems, geotextiles, metals and composites

FROM SENSOR TO DATA



Wireless Measurement Electronics

Wireless Measurement Electronics

A battery-powered measurement box for ElastiSense stretch sensors and strain gauges. Sensor signals can be sent to a Windows PC by cable or Bluetooth. Supplied software supports data acquisition, recording, simple calibration and direct visualisation.



Stretch Sensor Kit

Stretch Sensor Kit

A complete evaluation package for wearable motion capture and monitoring soft structures. The kit includes the Wireless Measurement Electronics, EST software and two standard ElastiSense stretch sensors.

Ideal for evaluation, portable instrumentation, prototyping and proof of concept.

BEYOND THE STANDARD PRODUCT

Your application defines the sensor solution.

ElastiSense has worked across many industries and development projects - from structural and geotechnical monitoring to machinery, vehicles, respiration, physical therapy, sports measurement, wearables and specialised research. Our sensor platform can be adapted when a standard product is not the right fit.

Geometry & range

Dimensions and measuring range matched to the application.

Electronics & output

Signal output and communication adapted to system requirements.

Tell us what you need to measure.

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