![Sensuron logo - ENGINEERING AT THE SPEED OF LIGHT]

Strain Sense

Strain Sense is a single-channel fiber optic sensing instrument for quasi- continuous strain monitoring. With over 2,000 sensing points on one fiber, users are able to achieve spatially continuous real-time strain monitoring. The system replaces single-point strain sensing solutions such as strain gauges, to monitor multiple areas simultaneously, identifying strain fluctuation points quickly and accurately. Customers who replace single-point sensing solutions with a true distributed sensing platform enjoy significantly reduced installation time as well as labor cost savings.

Features

- Finite element-like continuous strain distributions
- Easy to use, easy to install, plug-and-play sensors
- 13 meters of sensing length
- Interrogator strain measurement range −1,600 µε to +1,600 µε
- Acquisition time is less than 10 seconds @25°C
- 20 seconds idle time between 2 acquisitions @25°C
- Determine up to 3,200 µε strain range fluctuations

www.sensuron.com/Strain-Sense

Benefits

- *Low Cost:* Affordable single-channel system delivers true distributed strain sensing technology.

- *Easy to Use/Cost Effective:* Vastly reduced installation complexity and setup effort compared to traditional strain gauges.

- *Highly Accurate*: Fully distributed sensing provides high accuracy and high resolution strain data.

- *Distributed Sensing*: Single fiber can be discretized into over 2,000 finite element-like sensors to accurately measure strain distributions and gradients.

- *Versatile: S*tandoff length is fully customizable allowing users to place the sensors exactly where they need to be.

- *Robust:* Fiber sensors are immune to EMI, chemically inert, exhibit a linear response over their entire range, have zero hysteresis, and have a fatigue life orders of magnitude larger than foil strain gauges.

- *Embeddable*: Fiber sensors may be embedded into materials such as fiber reinforced composites to monitor curing effects, residual strains, and turn parts into smart structures.

Application examples

- *Aerospace:* Test, monitor and analyze the stress applied to aircraft parts and provide in -flight feedback to control systems.

- *Automotive*: Monitoring of strain distributions on frames, suspension parts, windshields, and various load-bearing components to ensure parts perform as intended over their full life cycle.

- *Civil*: Monitoring of strain and load distributions to provide insight into the physical integrity of structures. Can be used as an early detection system for catastrophic failure.

- *Medical*: Easily integrates with existing technologies for non-invasive surgical procedures.

Strain Sense	
Interrogator accuracy	1.25 µε
Strain repeatability	±1.5 µε
Features	
Total sensors on one fiber	2,048
Total sensing length	13m
Gauge spacing[2]	6.35 mm to 25.4 mm
Gauge length[2]	6.35 mm to 25.4 mm
Performance	
Acquisition time @ 25°C [3]	<10s
Spatial resolution[2]	6.35 mm
Sensor strain range	−1,600 µε to +1,600 µε
Mechanical and Environmental	
Dimensions[4]	300mm x 300mm x 100mm
Weight	2.1 Kg
Power consumption	15W typical

[1] Each unit comes standard with strain sensing capabilities. Upgrades are available for deflection. Contact Sensuron for more details.

[2] Operating at 3.2 mm spatial resolution by default. Longer gauge spacing and length requires custom option. Contact Sensuron for additional information.

[3] Strain Sense acquisition time is independent of sensor length. 20 seconds idle time between 2 acquisitions @25°C

[4] The system can be repackaged per customer requirements.

Please contact Sensuron by phone at +1 (512) 827-2040 or by sending an email to info@sensuron.com to discuss your specific application needs.

MADE IN USA

The individual specifications listed on the data sheet above are specific to each individual attribute. Overall product performance may vary based upon each specific use case and may vary depending upon combinations of Products, use with other hardware or software or conditions of use.