



RTS125+

Real Time Fiber Optic Sensing



RTS125+ can simultaneously measure strain, temperature, deflection, 3D shape positioning and more—making vast amounts of data available in real time. In today's world, success is increasingly predicated on the ability of an organization to obtain and interpret large quantities of data. The RTS125+ allows engineers across industries to gather the data they want, not just the data they can get.

Features

- Ruggedized
- Eight simultaneously monitored fibers with over 2000 equally spaced sensors per fiber
- Aggregate sensing length of 104 m
- Software selectable spatial resolution down to 1.6 mm
- Real time, high-resolution distributed strain and temperature measurements
- Up to 100 Hz acquisition rate
- Structural deflection & 3D shape sensing capability
- Immune to EMI/RFI and radiation for reliable operation in demanding environments

Benefits

- *Easy to Use/Cost Effective:* Vastly reduced installation complexity and effort compared to traditional strain gauges and thermocouples.
- *Highly Accurate:* Fully distributed sensing provides high resolution, real-time data for accurate shape and load path calculations.
- *Multi-Sensing:* Eight simultaneously monitored fibers with over 2,000 sensors/fiber to measure strain, temperature, deflection, 3D shape, liquid level, and more.
- *Versatile:* Standoff length is fully customizable allowing users to place the sensor exactly where it needs to be.
- *Dependable:* Having access to better data empowers engineers to detect design flaws earlier in product development, preventing costly failures after a product is launched.
- *Efficient:* Replacing multiple technologies in a single platform allows organizations to consolidate their testing and monitoring equipment.

Application examples

- *Aerospace:* Monitoring real-time changes in wing -load distribution, shape, liquid level and more.
- *Automotive:* Studying automobile frame deformation for improved safety and performance.
- *Civil:* Monitoring the overall health of structures that undergo constant stress, such as bridges, dams and buildings.
- *Medical:* Determining the shape of medical instruments used in non-invasive and minimally invasive surgical procedures.

www.sensuron.com/rts125

RTS125+ ¹	
Interrogator accuracy	1.25 $\mu\epsilon$ / 0.15 °C
Strain repeatability	$\pm 2.0 \mu\epsilon$
Temperature repeatability	± 0.20 °C
Features	
Simultaneously monitored fibers	8
Total sensors	16,384
Total sensing length	104 m
Sensing length per fiber	Up to 13 m
Gauge spacing ²	1.6 mm to 25.4 mm
Gauge length ²	1.6 mm to 25.4 mm
Performance	
Acquisition rate ³	Up to 100 Hz
Spatial resolution ²	1.6 mm
Interrogator strain measurement range ⁴	35,000 $\mu\epsilon$
Sensor temperature range ⁵	-200 to +200 °C
Mechanical and Environmental	
Standoff length ⁶	User defined between 0 to 30 m.
Dimensions ⁷	181 x 162 x 330 mm (WxHxL)
Weight ⁷	6.2 Kg
Power consumption	80W

¹Each unit comes standard with strain and temperature sensing capabilities. Upgrades are available for deflection and 3D shape sensing. Contact Sensuron for more details.

²Operating at 1.6mm spatial resolution requires custom option (6.3 mm is stock). Contact Sensuron for additional information.

³RTS125+ acquisition rates are independent of sensor length. The maximum acquisition rate of 100 Hz yields a strain range of approximately $\pm 800 \mu\epsilon$.

⁴The strain range is software adjustable within the listed range.

⁵This figure is for the standard fiber and coating supplied by Sensuron. Contact us for other fiber options for temperatures up to 900 °C.

⁶Contact Sensuron for standoff lengths longer than 30 m.

⁷The system can be repackaged per customer requirements.

Please contact Sensuron at 512-827-2040 or info@sensuron.com to discuss your specific application needs.

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.