

Optical Fiber | Tilt Sensor

Tilt sensor series (TS)

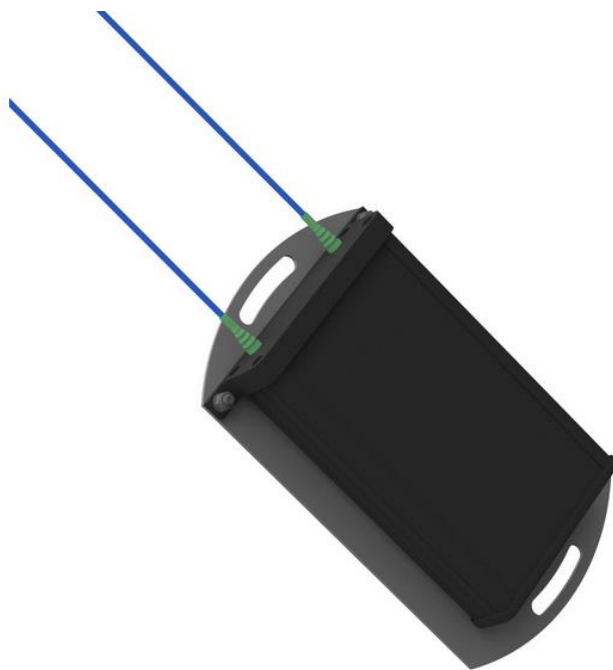
Optical Fiber Sensor – Product Information Sheet

Fiber optic sensors provide high accuracy and high-resolution measurement, beneficial for test and measurement applications involving extreme conditions where conventional sensors cannot perform well.

Optical tilt sensors offer a method of collecting small variations in angle within a single axis of a structure. The Tilt Sensor utilizes two FBG sensors for effective temperature compensation and is available point measurement configuration.

This optical pressure sensors meet PiMS™ (Pi-FBG Measurement Standard). To achieve the performance specifications presented, a Q.series X F108 Optical Gage Amplifier is required.

The F108 Optical Gage Amplifier seamlessly integrates with the Q.series X data acquisition platform. The modularity and versatility of the Q.series X product line can address any of your measurement challenges. Utilize GI.bench software for quick and easy setup and combine with GI.cloud for cloud storage and remote monitoring.



Key Features

- **Operating Range: -20 up to 70 °C**
- **±0.25% FSO Uncertainty**
- **10 km transmission**
- **Intrinsically Safe**
- **EMI & Radiation Immune**

Typical applications:

Structural health monitoring

Bridge, tunnel, and other infrastructure monitoring

Wind turbine health monitoring

Onshore and offshore monitoring

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Technical Data

Performance

Transducer operating range	-20 up to 70 °C
Measurement range	-10 up to +10 degrees
Tilt sensitivity	212 pm/deg
Resolution	±0.02 deg
Expected tilt uncertainty	±0.05 deg
Natural frequency	1.3 Hz
Temperature absolute uncertainty	±1.0 °C
Temperature relative uncertainty	±0.5 °C
Temperature resolution	0.01 °C
Optical sensor specifications	PiMS compliant

Environmental

Mounting Method	M8 Slots
Dimension	246 x 143 x 44 mm
Cable temperature (OFNP Cable)	-40 up to 70 °C
Minimum cable bend radius	16 mm
Optical connector	E2000/AFC
Fiber type	SMF28 compatible

Ordering Information

Model part number	TS-SPPS-NB1E2
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For Detailed Information about standard geometries, material substitutions, custom tip dimensions and alternative cable lengths please contact your sales partner.

For further information visit [Q.series X F108 landing website](#) or contact your local [Gantner Instruments sales representative](#)