FOS - Strain Gauge

Fiber Optic Strain Gauge

INSTRINSICALLY SAFE
IMMUNE TO LIGHTNING / EMI / RFI
STATIC / DYNAMIC RESPONSE

When bonded to a specimen, the FOS Fiber optic strain gauge measures the expansion and contraction of material due to mechanical stress or thermal effect

Description

ROCTEST's **FOS** fiber-optic strain gauges are the best choice for high-performance strain measurements. The strain gauge measures the expansion and contraction of material due to mechanical stress or thermal effect.

The strain gauges are designed around a Fabry-Perot interferometer (FPI). When bonded to a specimen, the strain transferred to the gauge is converted into engineering units by the readout.

FOS strain gauges are insensitive to any pulling or manipulation of the incoming fiber. This feature is advantageous when the gauge is embedded in composite materials. Long-term reliability of the gauge length is guaranteed by the welding method that avoids any internal creep that may arise from the use of adhesives.

Key Features

- Immune to EMI / RFI / Lightning
- Intrisincally safe
- Static / dynamic response
- High resolution: 0.01% of full scale
- Signal transmitted over long distances
- No interference due to fiber bending
- Absolute measurements in engineering units

Applications

- New material research and development
- Corrosive or high EMI / RFI environments
- Nuclear power plants
- Building monitoring
- Tunnel linings

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Specifications

Transducer type	Non temperature-compensated fiber optic strain gauge
Range[1]	±1000, ±2500, ±5000
Resolution	0.01% of F.S. (readout dependent)
Precision	Range dependent
Transverse sensitivity	<0.1% of F.S.
Operating temperature	−40 to +250°C (cable and adhesive dependent / installation over 200°C susceptible to creeping)
Fiber optic cable	CFO-3STD or CFO-1HT
Gauge material	Glass
Connector	ST
Gauge diameter	230 µm
Capillary length	8.5 to 10 mm (depending on range)

[1] *Other ranges available upon request*

Ordering information

Please specify:
- Range
- Cable type and length (2 meters min.)
- Readout

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