

STRAIN GAUGE

Model FOS



APPLICATIONS

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

DESCRIPTION

Roctest's 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.

FEATURES

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

SPECIFICATIONS

Transducer type	Non temperature-compensated fiber optic strain gauge
Range ¹	±1000, ±2500, 0 to +2500, 0 to +5000, -2500 to 0, -5000 to 0 $\mu\epsilon$
Resolution	0.01% of F.S.
Precision	Range dependent
Transverse sensitivity	<0.1% of F.S.
Response time	Signal conditioner dependent (up to 2 MHz)
Operating temperature	-40 to +250°C; operating temperature is cable and adhesive dependent Installation over 200°C susceptible to creeping
EMI/RFI susceptibility	Intrinsic immunity
Fiber optic cable	CFO-3STD or CFO-1HT
Gauge material	Glass
Connector	ST
Gauge diameter	230 μm
Capillary length	8.5 to 24 mm (depending on range)

1. Other ranges available upon request.

ORDERING INFORMATION

Please specify:

- Range
- Fiber optic cable model and length (2 m min.)
- Fiber optic readout instruments