

**LONG-GAUGE DEFORMATION SENSOR
ROBUST AND TEMPERATURE INDEPENDENT**

For surface mounting or embedding in concrete and mortars.
Ideal for long-term structural deformation monitoring.
20 year track record in field applications.

Description

The SOFO deformation sensors are the ideal transducers to monitor large civil structures. Their long-gauge and insensitivity to temperature variations, make them ideal for long-term monitoring of structural deformations. The sensors can be quickly and easily surface mounted or directly embedded in concrete and mortars.

SOFO sensors have been the standard in fiber optic deformation monitoring for the last 20 years.

The sensor is composed of two main parts, an active and a passive one. The active part contains the reference and the measurement fibers and measures the deformations between its two anchors. The passive part is insensitive to deformations and is used to connect the sensor to the Reading Unit. The output is terminated with an E-2000 connector with a built in protective cover.

Key Features

- High resolution
- Embeddable or surface mountable
- Temperature insensitive
- Insensitive to corrosion and vibrations
- No calibration required
- Easy to install
- Long term reliability
- Waterproof
- Static measurements

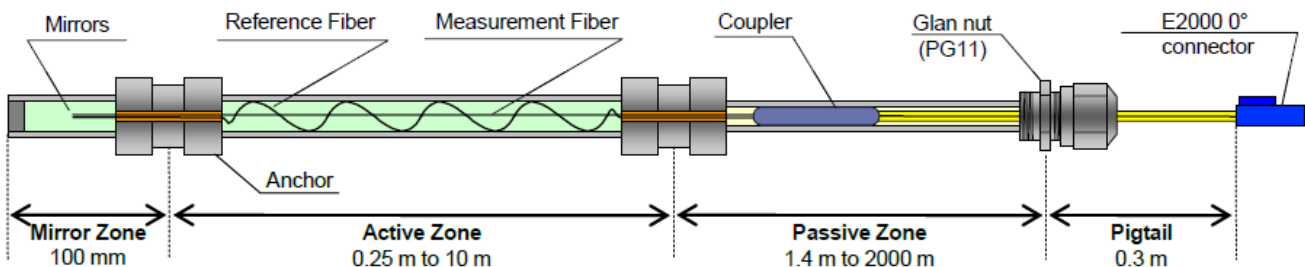
Applications

- Bridge Structural Health Monitoring
- Building monitoring
- Dam instrumentation
- Tunnel deformation monitoring
- Pipeline local deformation analysis

Specifications

Length of active zone (LA, measurement basis)	25 cm to 10 m, standard lengths 10 m to 20 m, customized lengths upon request
Length of passive zone (connecting cable)	1 m to 100 m Customized lengths up to 2000 m upon request
Measurement range	0.5% of LA in shortening, 1% of LA in elongation
Measurement precision	0.2% of the measured deformation or better
Measurement resolution	2 μm RMS
Connecting cable protection options (see specific datasheet for details)	Standard (recommended for embedding or surface mounting in normal conditions) Stainless steel protecting tube (recommended in harsh conditions) Simple cable without protecting tube (recommended for laboratory conditions)
Operating temperature	Standard active zone: -50 °C to +110 °C Special active zone (upon request): -50 °C to +170 °C Passive zone: -40 °C to +80 °C
Waterproof	5 bars (15 bars with extra protection on anchoring points)
Calibration	Not required

Sensor Configuration



Not to scale

Ordering information

- Length of active zone
- Length of passive zone
- Connecting cable type