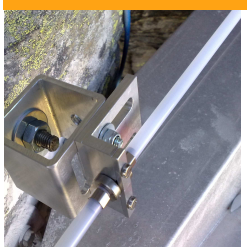
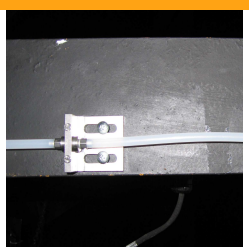
10.1010 SOFO
STANDARD DEFORMATION SENSOR

GENERAL DESCRIPTION

The SOFO deformation sensors are transducers that transform a distance variation into a change in the path unbalance between two optical fibers that can be measured with a Smartec's SOFO Reading Unit.

TECHNICAL DESCRIPTION

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 ends.

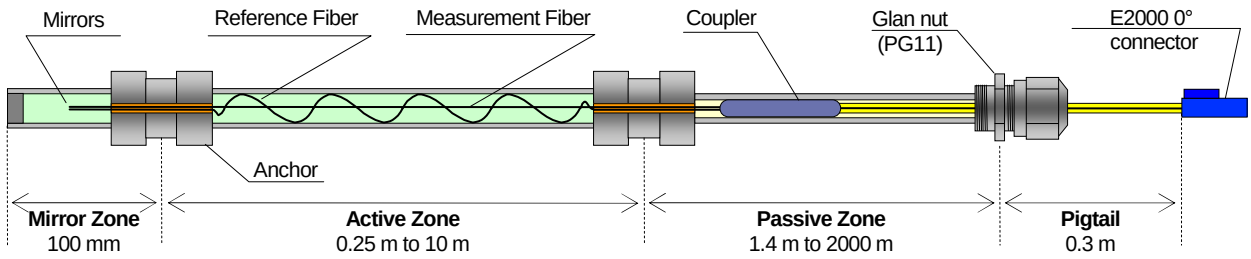
The passive part is insensitive to deformations and is used to connect the sensor to the Reading Unit. The output is terminated with an E-2000 connector with a built in protective cover.

The sensors can be quickly and easily surface mounted or directly embedded in concrete and mortars.

FEATURES

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

SENSOR CONFIGURATION



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TECHNICAL CHARACTERISTICS

Length of active zone (LA, measurement basis)	0.25 m to 10 m, standard length 10m-20m, 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 ℃ to +110 ℃ Special active zone (upon request): -50 ℃ to +170 ℃ Passive zone: -40 ℃ to +80 ℃
Waterproof	5 bars (15 bars with extra protection on anchoring points)
Calibration	Not required

ORDERING INFORMATION

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