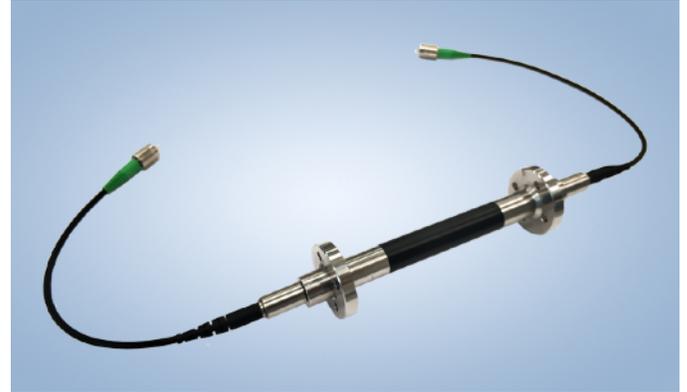


Description

The T245 is a **Single-Mode (SM) Fiber Bragg Grating (FBG) based Short-Gauge (11cm) Strain Sensor** for embedding into concrete and other materials.

Packaged to eliminate influences from the ambient environment. The short-gauge length defined by the sensor's anchoring brackets yields immunity to local defects or inhomogeneities of the tested specimen. Excellent wavelength to strain and temperature linearity. Calibration service available upon request. The accuracy and precision specifications take into account any hysteresis, non-linearities, and the repeatability of the sensor. The T245 sensor handling and installation is fast, easy and intuitive. Immune to lightning and electromagnetic interference (EMI).

T245 series Short-Gauge Strain Sensors are fabricated using licensed and proprietary state-of-the-art laser manufacturing technologies and product designs. The sensor packaging described herein represents the most popular configuration and can be customized.

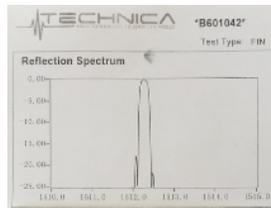


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Key Features

Strain and temperature linearity.

T245 design uses one precision made FBG for producing a transducer with high linearity, resolution, accuracy, and precision. SLSR & BW options. If needed, temperature compensation is available using a separate, in-line T8XX series temperature sensor.



Rugged, small-sized, and pre-strained at the factory. Ready to be embedded into concrete without the need for any supporting brackets or fixtures.



Ready to be daisy-chained. Well suited for projects that include the need to monitor strain at one or many locations. Provided as single sensors or in ready to install arrays of various lengths and with a flexible number of sensors. The interconnections between adjacent sensors in the arrays can be via rugged waterproof connectors (T960) or by rugged waterproof splices (T970).

Low cost and field proven. For demanding projects that require both low cost per sensing point and stable operation for long-term. Extensively used in field applications since 2010.

Parameter	Specifications
Wavelengths and Tolerance	1459 to 1621 nm, +/-0.5 nm; 980, 1060, 1310 nm, other
Reflection BW (FWHM)	<0.6 nm; other options
Reflectivity % and SLSR	>30%, 12 dB, other options
Strain Range	+/- 5,000 $\mu\epsilon$, other options
Gauge Length	110mm
Strain Accuracy	<0.50% FS (<0.25% FS typical)
Strain Precision	<0.25% FS (<0.15% FS typical)
Temperature Compensation	External
Operating Temperature	-20 to +60 Degrees Celsius
Ingress Protection Rating	IP67
Sensor Pigtail (Length, DIA)	1 m and 3mm, other options
Cable Bend Radius	30 mm Static, 40mm Dynamic
Optical Connector	FC/APC, or custom
Housing Material	Stainless Steel SS316L
Dimensions (DIA x L), Weight	34mm x 174mm, 260g
Mounting Methods	Embedding

Applications in Civil Engineering, Geotechnical, Energy, Industrial, and Research

Technica undertakes a rigorous development process before products release. The company is also firmly committed to continuous improvements after release to insure performance to the highest standards, hence, specifications are subject to update without notice.

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