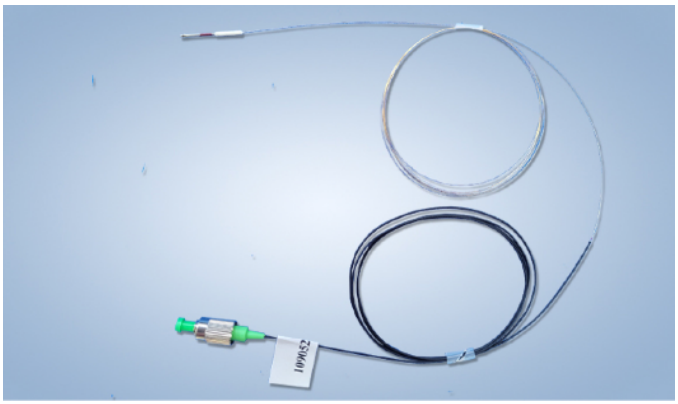
T885 / High Temperature Inconel Sensing Needle +1,000°C

Description

The T885 is a Single-Mode (SM) Fiber based High Temperature Fiber Bragg Grating (HTFBG) Sensor, packaged into a precision manufactured Inconel 625 tube and rated for operation to +1000C. The HTFBG embedded sensor is ultra-small and is designed for use in single-sensing-point applications with the added requirement of minimal intrusion. Immune to EMI and lightning.

The T885 optical temperature sensing probe consists of one Fiber Bragg Grating sensing element embedded in a singlemode fiber. Available with Gold, Copper, Aluminum, Polyimide, or Acrylate fiber coatings, or as coating free fiber sensors, depending on the desired temperature rating and application details. Inconel tube hermetic sealing (capping) and calibration service is available upon request. Sensing probe length and diameter limitations apply.



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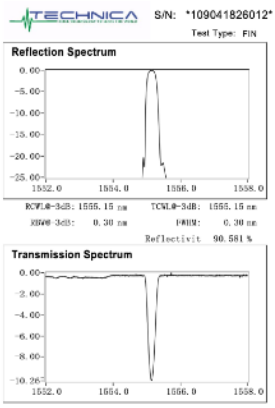
Key Features



Temperature linearity. The precision made HTFBG structure written into the fibers' core for producing the T885 yields a simple transducer configuration of high resolution, linearity, and measurement repeatability. The sensor's BW (FWHM), REF, and SLSR are dependent on the temperature rating.

Customizable Single-Point Sensing of High Temperature. Well suited for projects that include the need to monitor high-temperatures at individual points, with sensing probes from 5mm to 900mm in length, not including the pigtail. Customizable sensing probe outed diameters from 0.5mm to 3mm. Standard connectors termination, or splicing to specialty cables available.

Reliable high-temperature measurements. Designed for projects that require both the availability of high- temperature resistant FBG sensors and stable operation for highly accurate measurements over the long-term. The T885 installation is easy and fastening methods are by simple mounting brackets, and by ceramic tube bonding, laying, inserting, or embedding.

Proven field performance. The company's family of High-Temperature Multipoint FBG Sensing Probes are a commercial product manufactured in increasing volumes. Installed in applications worldwide with practically no returns since initial release. The world leading sensing probe lengths, outer diameters options, and proprietary ceramic transition and hermetic tip sealing technology make the T885 a valuable sensing product that extends the range of applications addressable by FBG sensors.

Parameter	Specifications
Wavelengths / Tolerance	1460 to 1620 nm, +/-1 nm; 980, 1060, 1310 nm, other
Reflection BW (FWHM)	0.15 nm to 50.0 nm < +400°C; 0.15 nm to 0.8 nm > +400°C;
Reflectivity %	>20%; other options
FBG Length	1mm -10mm
SLSR	10 dB; other options
Response Time	1 second
Maximum Temperature Options	To +100°C, +300°C, +400°C, +500°C, +600°C, +800°C, +900°C, and +1000°C
Fiber Coating Options (inside the Ceramic probe)	Acrylate, Polyimide, Aluminum, Copper, Gold, and Bare Uncoated Fiber
Fiber Type (core/clad/coat)	Single-Mode 9/125/155um
Sensor Configuration	Sealed-tip sensing probe w optical cable pigtail
Sensing Probe Diameter (OD), Length	1mm Standard, other options from 0.5mm to 3mm OD; 2.5cm standard, other options
Pigtail Length, Bend Radius, Protection, Connector	1m, > 17 mm, Fiber Braid, FC/APC, other options

Applications in Materials and Equipment Test Labs, Aviation, 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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