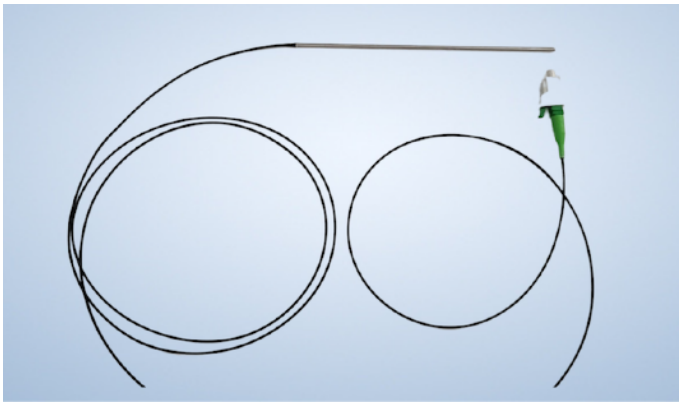
T860 / Cryogenic Temperature Sensor to -270°C

Description

The T860 is a Single-Mode (SM) Fiber based Cryogenic Temperature Fiber Bragg Grating (HTFBG) Sensor, packaged into a precision manufactured stainless steel tube and rated for operation to -270 Degrees Celsius. The CryoFBG 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.

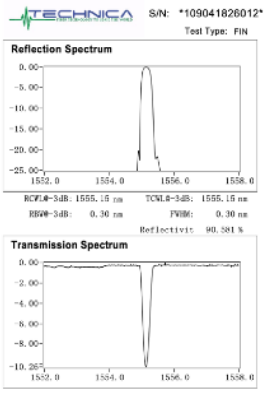
The T860 optical temperature sensing probe consists of one Cryogenic Fiber Bragg Grating sensing element embedded in a single-mode fiber, further protected by proprietary cryogenic environment rated materials, and finally encapsulated into a hermetically sealed stainless steel probe. Temperature calibration service is available upon request.



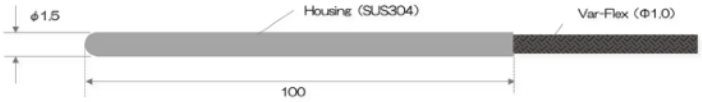
Manufactured by Technica under International License from Raytheon Technologies

Key Features

Temperature linearity. The precision made CryoFBG structure manufactured for the T860 yields a simple transducer configuration of high resolution, linearity, and measurement repeatability. Unlike standard fiber FBGs that stop responding below -80C, the T860 reliably provides temperature measurements to -270C.



Small form-factor. Well suited for projects that include the need to monitor low-temperatures at individual points, with small form-factor sensing probes. Multiple T860 sensors can be connected to a single optical channel of an optical sensing interrogator by using optical splitters. Standard connectors termination, or splicing to specialty cables available.



Reliable low-temperature measurements. Designed for projects that require both the availability of low-temperature responsive FBG sensors and stable operation for highly accurate measurements over the long-term.

Proven field performance. The company's family of Cryogenic Temperature Sensors and Cryogenic Strain Sensors (see T212 and T213 sensor models) are commercial products manufactured in increasing volumes. These world leading products extend the range of applications addressable by FBG sensors.

Parameter	Specifications
Wavelengths, CW Tolerance	1460 to 1620 nm +/-2 nm;
Reflection BW (FWHM) BW Tolerance	0.25nm apodized +/- 0.05nm
Reflectivity %	>50%
FBG Length	12mm
SLSR	>15 dB
Repeatability and Response Time	<1 Degree Celsius, 1.6 seconds
Minimum Temperature Options *Note: Optional Temperature Calibration available to -200C*	To -20°C, -40°C, -100°C, -200°C, and -270°C
Fiber Type	SMF28 or equivalent
Sensor Configuration	Sealed-tip sensing probe w optical cable pigtail
Sensing Probe Diameter (OD), Length	1.5mm OD, 100mm
Pigtail Length and OD, Bend Radius	1m and 1mm, > 17 mm,
Pigtail Protection, OD	Fiber Braid, 1mm OD
Connector Options	FC/APC or LC/APC

Applications in LNG Industry, Aerospace, Medical, Materials Test Labs, 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.

Technica Optical Components / 3657 Peachtree Rd, Suite 10A, Atlanta, 30319, USA, info@technicasa.com, www.technicasa.com