

## Description

The T820 is a Single-Mode (SM) Fiber based Fiber Bragg Grating (FBG) Packaged Temperature Sensor for use in environments from -50°C to +250°C.

Available in a wide range of optical specifications. Packaged to eliminate influences from the ambient environment. Ready for direct mounting steel and copper construction exhibiting excellent wavelength to temperature linearity. Calibration service available upon request. The full-scale (FS) accuracy and precision specifications take into account any hysteresis, non-linearities, and the repeatability of the sensor. The T820 FBG handling and installation is fast, easy and intuitive. Delivers the advantages inherent to FBG based sensors. Immune to EMI.

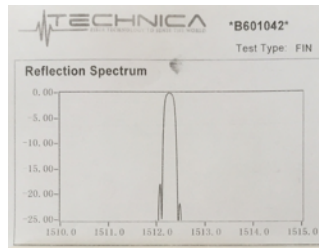
T820 series Temperature Sensors are fabricated using licensed and proprietary state-of-the-art laser manufacturing technologies and thermal designs. The sensor packaging described herein represents the most popular configuration and can be customized.



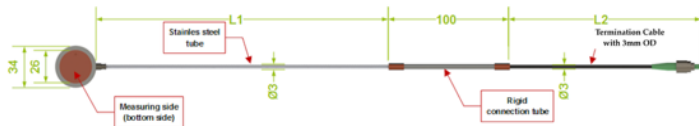
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## Key Features

**Temperature linearity.** The precision made FBG structure written into the fibers' core for producing the T820 yields a simple transducer configuration of high resolution, linearity, and measurement repeatability. High SLSR and customer specified BW for clear signal processing.



**Rugged housing for harsh environments.** The T820 optical sensor core is protected by a steel and copper shell in a construction that balances cost, performance, and reliability for creating an attractive commercial solution.



**Available as single point sensor and can be multiplexed in star architecture.** Well suited for projects that include the need to monitor temperature at key discrete locations, or for measuring temperatures distributed at many points. The T820 can be provided in star architecture arrays of various lengths with a flexible number of sensors.

**Low cost and field proven.** The T820 sensor construction focuses on demanding projects that require both low cost per sensing point and stable operation over the long-term.

Parameter	Specifications
Wavelengths and Tolerance	1459 to 1621 nm, +/-0.5 nm; 980, 1060, 1310 nm, other
Reflection BW (FWHM)	0.1 nm to 2.0 nm; other opt.
Reflectivity %	1% to 99%
SLSR	15 dB; other options
Temperature Range	-50°C to +250°C
Temperature Accuracy	1% FS (0.8% FS typical)
Temperature Precision	0.3% FS (0.2% FS typical)
Resolution and Sensitivity	0.1°C, 10pm/°C
Ingress Protection Rating	IP65
Sensor Configurations	Single-Ended or Multi-Sensor Star Array
Sensor Pigtail (Length, DIA)	2 m and 3mm Stainless Steel
Cable Bend Radius	15 mm Static, 30mm Dynamic
Optical Connector	FC/APC, or custom
Housing Material	Stainless Steel SS316L and Copper
Dimensions	34mm DIA x 9.5mm H
Weight	100 g

## Applications in Chemical, Oil & Gas, Energy, Industrial, and Research Applications

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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