

## Description

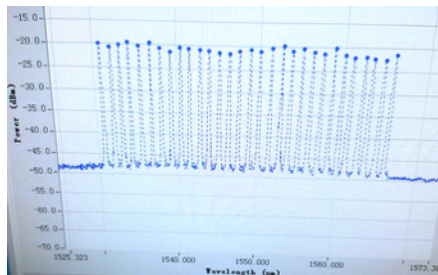
The T170 is a Single-Mode (SM) Fiber based Fiber Bragg Grating (FBG) Multipoint Sensing Array usable in environments to 500kpsi. Written Through-the-Coating and featuring wide choices of Bandwidths from 0.1nm to 50nm, Reflectivities from 1% to 90%, with ultra-low Polarization Dependent Frequency Shift (PDFS) and Polarization Dependent Loss (PDL), and SLSR > 15dB.

Naturally packaged (written) directly in fiber, these high-strength sensors can be used as they are or they can be packaged into a variety of higher level sensors for use in optical sensing systems. Small-size and fast response time. Excellent wavelength to temperature and wavelength to strain linearity. The T170 FBG is designed to make handling and installation fast, easy and intuitive. Delivers advantages inherent to all FBG sensors. Equally sensitive as traditional strain and temperature sensors but immune to EMI.

For security, robotics, medical, civil & geotechnical engineering, oil & gas, aerospace, railways, roadways and advanced vehicles, performance gear, marine vessels & racing yachts, wind turbines, pipelines, nuclear facilities, industrial processes, and for R&D.

## Key Features

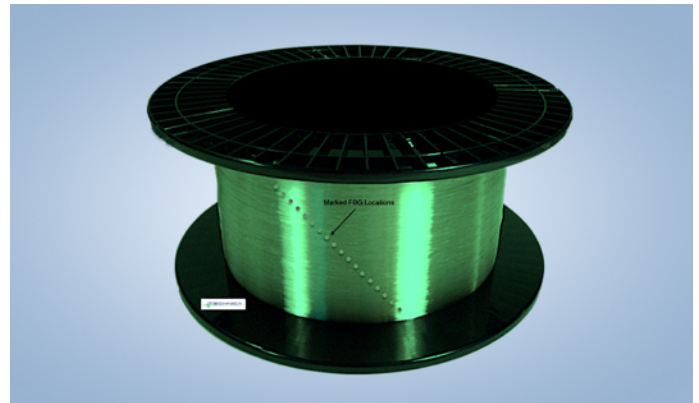
**Temperature and Strain Linearity.** The precision made FBG structure written into the fibers' core for producing the T170 yields a sensor configuration of high resolution, linearity, and measurement repeatability.



**Easy to daisy-chain.** For monitoring strain, temperature and other parameters at many points. The T170 can be provided as multi-FBG Arrays of various lengths and number of FBGs including ultra-high density FBG sensor arrays. It is also offered embedded into various types of protection tubing and cables.

**Low cost, easy installation, and long lifetime.** The T170 was designed for projects that require both the availability of low-cost high-strength FBG arrays and stable operation for highly accurate measurements over the long-term. The original design makes handling and installation very easy. Fastening methods are by simple fiber bonding, laying, or embedding. Technica is happy to provide support and advice with regard to application specific installation and monitoring requirements.

**Proven reliability and performance.** The core technology used for reel-to-reel volume production of the T170 high strength sensing arrays has been developed over several years and received excellent customer feedback. The T170 is a reliable sensor for a wide range of applications.



Manufactured and sold by Technica under International License from United Technologies Corp.

Parameter	Specifications
Wavelengths / Tolerance	1458 to 1622 nm, +/-0.5nm; 980, 1060, 1310nm, other
Reflection BW (FWHM)	0.1nm to 1.5nm Standard; 1.5nm to 50nm Chirp
Reflectivity %	1% to 90%
FBG Length, Adjacent Space	1mm to 24mm, 1mm minimum adjacent spacing
SLSR	>15dB; other options
Response Time (Strain, Temp)	0.01ms, 0.1ms
Temperature Range / Sensitivity	-40°C to +100°C; ~10 pm/°C other options available
Strain Range / Sensitivity	>30,000µε with 1.2pm/µε; other options available
Fiber Type and Coating	Single-Mode Fiber with Premium Acrylate Coating, other options available
Splice-Free Array Length	No Minimum, 10km Max
Fiber Bend Radius	>17mm, other options
Optical Connector	FC/APC, LC/APC, or custom

## Applications include Security, Medical, Robotics, Structures, Energy, Industrial and R&D

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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