

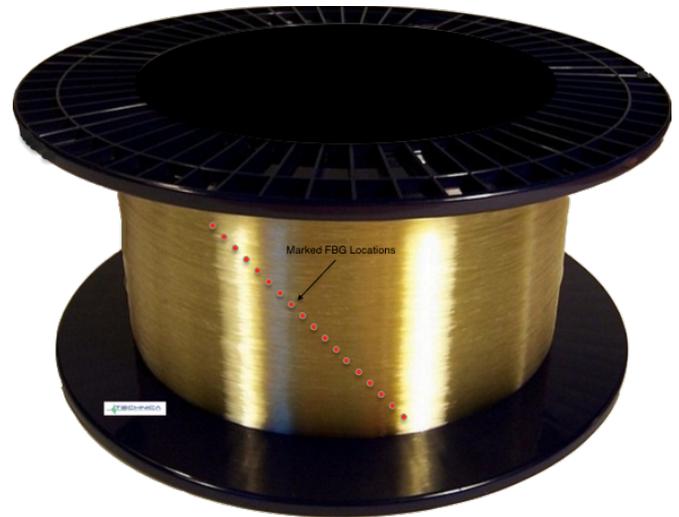
Description

The T100 is a Fiber Bragg Grating (FBG) Array which is available in a wide range of optical specifications. Naturally packaged directly in bare fiber, these daisy-chained FBG sensors are ultra-small and are designed for use in distributed, quasi-distributed, and multi-sensing-point applications with the added requirement of minimal intrusion.

The T100 optical sensor consists 1 to 99 Fiber Bragg Grating sensing elements embedded in single-mode acrylate, polyimide, gold, or other types of coated fiber. The sensor yields excellent wavelength to temperature and wavelength to strain linearity. Its sub-millisecond response time also makes it useful for process feedback and control in laboratory and commercial applications.

The T100 FBG Array is designed to make handling and installation fast, easy, and intuitive. It delivers the many advantages inherent to all FBG based sensors. Equally sensitive to most traditional strain and temperature sensors but immune to EMI.

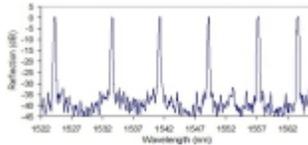
The FBG specifications listed herein represent the most popular configuration. Many optical and physical variations are available.



Key Features

Temperature and strain linearity.

The annealed FBG structure and top quality single mode fiber used in producing the T100 yield a simple transducer configuration of high resolution, linearity, and measurement repeatability.



Daisy-chaining with no limits. Well suited for projects that include the need to monitor many points as the T100 is a ready to deploy FBG Array, available in customer defined distances between FBGs, and featuring a flexible and virtually limitless number of FBGs to match the requests of our customers, to optimally fit the applications. Standard terminated with connectors.

Low cost, easy installation, and long lifetime. The T100 was designed for projects that require both the availability of low-cost FBGs 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.

Proven field performance. The T100 FBG Arrays are our most popular volume manufactured product. In production since years, the T100 continues to improve in specifications and available options each year. We continue to receive excellent customer feedback: Currently installed in applications worldwide with practically no returns since initial release.

Parameter	Specifications
Wavelengths / Tolerance	1460 to 1620 nm, +/-0.5; 980, 1060, 1310nm, other
Reflection BW (FWHM)	0.2nm to 0.3nm; other opt.
Reflectivity %	>70%; other options
FBG Length	8mm; 1-24 mm options
SLSR	15 dB; other options
Response Time	0.01 milli-seconds
Temperature Range / Sensitivity	-40 to 300°C; ~10 pm/°C
Strain Range / Sensitivity	10,000 microstrain; 1.2pm / microstrain
Fiber Type and Coatings	SM Polyimide; other coatings: Acrylate, gold...
Fiber Pigtail Diameter	0.25 mm, other options
Cable Bend Radius	>17mm; other options
Optical Connector	FC/APC, other options

Applications in Medical Robotics, Energy, Structure Test Facilities, Vehicle Labs, Industrial

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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