

Description

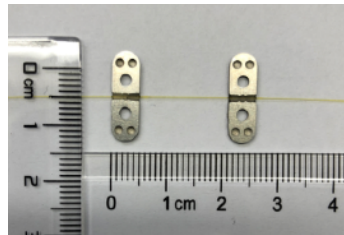
The T202 is a Polyimide coated Single-Mode (SM) Fiber based Fiber Bragg Grating (FBG) that is factory-bonded to a narrow stainless steel pad or “anchor” on each side of the FBG. The proprietary non-slip bonding process used for manufacturing the T202 yields ultra-high consistency and enables direct and immediate field installation of the FBG to many types of surfaces by spot-welding, chemically bonding (epoxying), or screwing-in the FBG’s steel pads to the customers’ surfaces.

Available in a wide range of optical and mechanical specifications. With its sensor packaged (inscribed) directly into the core of the fiber, the T202 can be used as is, or it 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 T202 is designed to make handling and installation fast, easy and intuitive. Delivers the many advantages inherent to all FBGs.

Key Features

Small size with excellent temperature strain linearity.

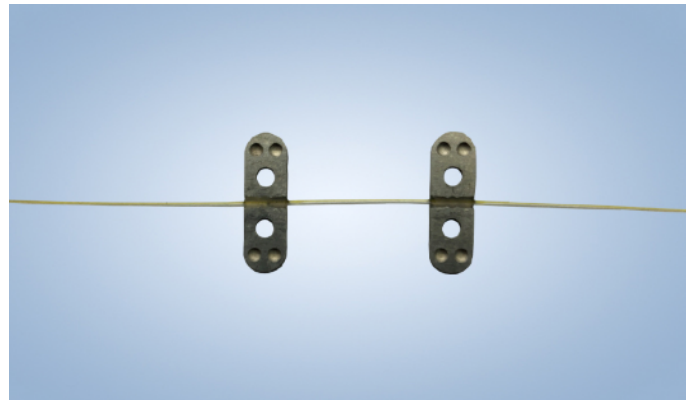
The precision made FBG structure of the T202 sensor yields a simple transducer configuration of high resolution, linearity, and measurement repeatability. Clear high SLSR response.



Ultra reliable installation. The T202 aims to eliminate the need for civil, industrial, medical, security, rail, marine, aerospace, energy and other engineers and researchers to all become materials experts for bonding sensors that will not slip from their various application surfaces. Ideally balancing cost, performance and reliability, the T202 is here to simplify the process of using Fiber Bragg Gratings, and to accelerate the creation of new and attractive fiberoptic based commercial solutions. Available for fibers with diameters from 50µm to 155µm and with standardized and custom size stainless steel anchors (pads). The fiber pigtailed can be protected with Teflon or other types of loose tube jacketing.

Easy to daisy-chain. Well suited for projects that include the need to provide optical filtering, to monitor strain, temperature and other engineering parameters at many points. The T202 can be provided as a single FBG optical component or in FBG arrays of various lengths, with a flexible number of FBGs, and with the steel anchors located at customer specified distances along the fiber.

Proven field performance and reliability. The T202 Stainless Steel Anchored FBG Sensor is a rugged low-cost optical component with stable operation for highly accurate and reliable long-term use in various applications, as is. It is also the core element for the development of an expanding range of devices such as strain, vibration, acceleration, displacement, tilt, pressure, load, temperature, and other types of optical sensors. The Technica TS900 Spot-Welder is optimized for installing Technica sensors.



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Parameter	Specifications
Wavelengths / Tolerance	850 to 1650nm, +/-0.5nm
Reflection BW (FWHM)	0.2nm Std; 0.1 to 2.0nm avail.
Reflectivity %	>50% Std; 1% to 99% available
FBG Length	14mm Std; 1-24mm available
SLSR	>15 dB; other options avail
Steel to Fiber Bonding	Proprietary, no-epoxy
Response Time (Strain, Temp)	1.0ns, 0.1ms
Temperature Range/ Sensitivity	-50°C to +130°C; ~10pm/°C
Strain Range / Sensitivity	1000, 3000, 5000 µstrain Std 1.2pm per µstrain
Fiber Type and Cladding Diameter Options	Single-Mode 125µm Std; , 80, 50µm available
Fiber Coating, Total Outer Diameter	Polyimide, 155µm Std; 100µm and 70µm available
Stainless Steel Anchors (Pads) Size (L,W,H - in mm)	16x5x0.8mm Std, other options available
Distance Between Steel Anchors	15mm Std; other options avail
Fiber Pigtail Length	1 m, other options
Fiber Bend Radius	>17mm Std, >2mm option
Optical Connectors	LC/APC, FC/APC, or custom
Installation Methods	Spot-Welding, Glue, or Screw-In

Applications in Structural Engineering, Energy, Industrial, Aerospace, and R&D Labs

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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