

[OEFBG-TUN-EST]

Enhanced Sensitivity Thermo-Tunable Fiber Bragg Grating Filter

Features:

- Custom FBG Filter specifications
- Wide range of FBG bandwidth and reflectivity
- FBG CWL tuning range up to 2 nm
- Transmission (standard) or reflection mode
- SM, PM, MM, DCF fiber
- Fiber pigtails with protective tubing
- Fiber connectors (optional)
- Thermo-electrical cooler (TEC) with temperature feedback and heatsinking

Applications:

- Spectroscopy
- Optical sensing
- Laser technology
- R&D and laboratory testing
- For fine tuning of the FBG wavelength
- For stabilizing the FBG wavelength

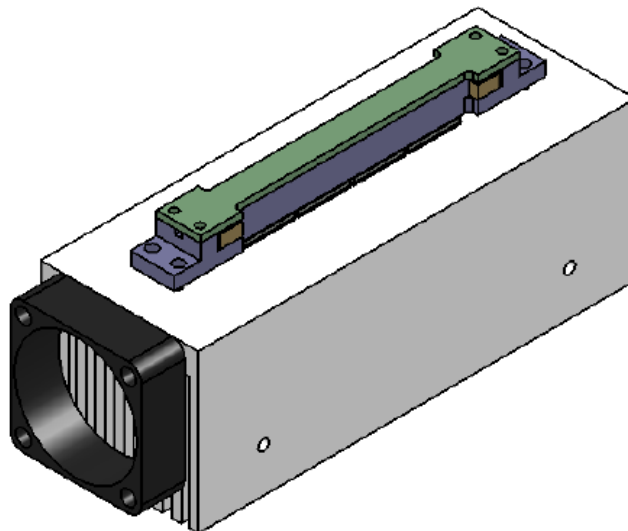


Fig. 1. OEFBG-TUN-EST Thermo-Tunable FBG Filter

Product description:

The Enhanced Sensitivity Thermo-Tunable Fiber Bragg Grating filter (OEFBG-TUN-EST) offers the possibility for fine tuning of the FBG center wavelength, using a Thermo-electrical cooler (TEC), over a range of up to 2 nm. The Fiber Bragg Grating (FBG) Filter specifications can be completely customized and defined by the customer (some limitations apply). The use of FBG technology allows the device to be manufactured in both transmission and reflection mode, or in reflection mode only (by request). When in reflection mode, the customer is required to use an external optical circulator. Circulators are available from O/E Land, at the 1060 nm, 1310 nm and 1550 nm ranges, and by request.

The FBG Filter is pre-installed in a small enclosure, in which the temperature is precisely controlled. The controlled temperature can vary from 5°C to 100°C, achieved by using a high-efficient TEC. This will guarantee not only the tuning of the FBG central wavelength, but also it can stabilize the central wavelength at a certain temperature point if that is needed.

The device comes with the pre-mounted enclosure on a heatsink for improved performance and includes the TEC and thermistor feedback. This version requires the use of an external TEC controller to operate, provided by the customer.

Product specifications:

Parameters	Unit	OEFBG-TUN-EST
FBG Center wavelength (CWL)	nm	400-2400
FBG Bandwidth (FWHM)*	nm	0.05 - 100
FBG Reflectivity*	%	0.1 – 99.99
FBG CWL Tuning range**	nm	< 2
FBG CWL Shift (typ.)	pm/°C	50
Tuning resolution	nm	~ 0.1
Insertion loss	dB	< 0.5
Out band suppression	dB	10-40
Optical power handling	mW	500
Connectivity	-	Fiber connectors or fiber pigtail
Fiber type	-	SM, PM, MM, DCF
TEC operating range	°C	5 - 100
TEC driving current/voltage	-	1.9A / 4.2V DC
Temperature feedback	-	Included, with thermistor (10kΩ, NTC)
Heatsinking	-	Included
Device operating temperature***	°C	20-30
Device storage temperature	°C	0 - 70
Dimensions	mm	100x36x46

* Some limitations apply.

**Tuning range can significantly vary depending on FBG specifications.

*** Recommended values. The ambient environment temperature can limit the performance, incl. the tuning range.

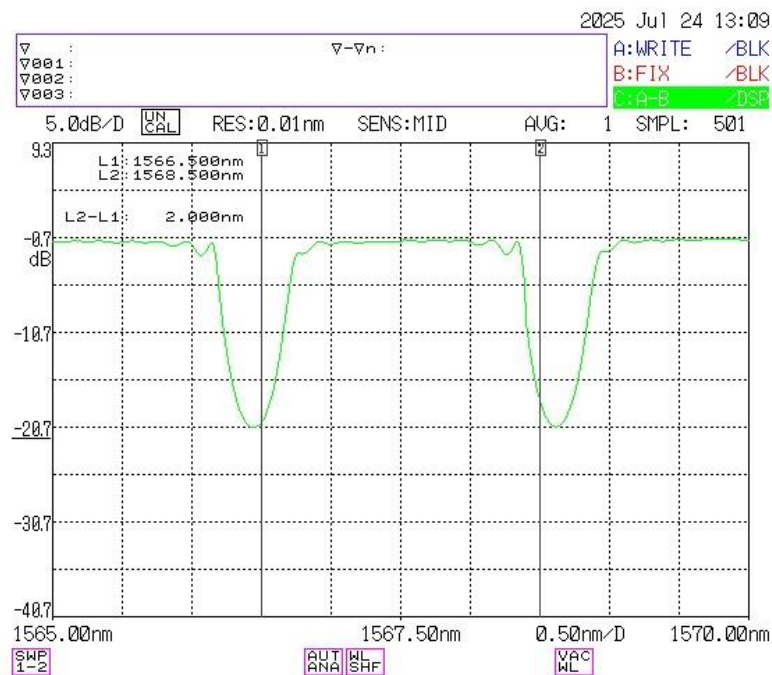


Fig.2. FBG reflection spectra over the tuning range.

Ordering number:

OEFBG-TUN-EST-WL-TR-BW-R:	WL	TR	BW	R
	Wavelength (nm)	Tuning range (nm)	Bandwidth (nm)	Reflectivity (%)
Example:	OEFBG-TUN-EST-1550-1-0.5-90			