

[OEFBG-TUN-STU]

Standard Tunable Fiber Bragg Grating Filter (Manual/Electrical)

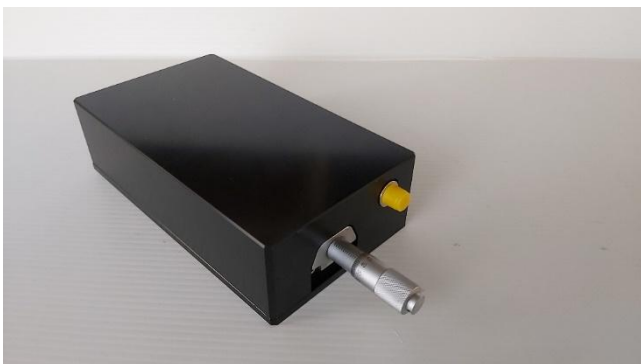
Features:

- Custom filter FBG specifications*
- FBG CWL tuning range up to 20 nm*
- Transmission (standard) or reflection mode
- Integrated optical circulator (optional)
- SM or PM fiber
- Receptacle FC/APC connectors (standard)
- High resolution wavelength tuning using manual actuator or with software (E-version)
- Differential micrometer knob for manual version (optional)
- Long lifetime and low insertion loss
- High reliability and repeatability
- USB interface and software control (E-version)
- DC 12 V power supply (E-version)
- Turnkey solution

* Some limitations apply



OEFBG-TUN-STU Electrical



OEFBG-TUN-STU Manual



OEFBG-TUN-STU Manual with a differential actuator

Product description:

The Tunable Fiber Bragg Grating filter (OEFBG-TUN-STU) offers the flexibility of the manually or electronically controlled tuning of the FBG center wavelength in a compact, turn-key solution product. It can provide stable tunable range, simple structure, high resolution, and long lifetime. The tunable filter uses Fiber Bragg Grating technology which can be both used in transmission and reflection mode, or in reflection mode only (by request). As an option, an optical fiber circulator can be integrated to provide a bandpass signal to the output port. Circulators are available at the 1060 nm, 1310 nm and 1550 nm

ranges. A bandstop option, without circulator, is also available. In the bandstop version, the bandpass signal is reflected into the input.

FBG specifications can be customized, although some limitations apply. In the manual version, a precision micro-actuator is used for tuning the wavelength. In the electrical version, the customer can use computer-controlled operation in a user-friendly interface through the USB port to tune the wavelength. The Tunable FBG can be used as dynamic add/drop, wavelength router/switch, dynamic dispersion compensation fibre grating, dynamic gain flattening, tunable fiber laser, fiber sensor system, and in any other custom applications, where tuning of the center wavelength is required.

The wide range of tunable FBG filter is based on proprietary technology with US patent 6,360,042.

| Parameters | Unit | OEFBG-TUN-STU |
|--------------------------|------|--|
| Center wavelength | nm | 650-2100 |
| Tuning range* | nm | up to 20 |
| Minimum FWHM BW* | nm | <0.05 - 2 |
| Insertion loss | dB | <1.5 |
| Out band suppression | dB | 10-40 |
| Optical power handling | mW | 500 |
| Tuning resolution** | nm | ~ 0.1 (manual) ~ 0.01 (manual with differential actuator; electrical) |
| Connectivity | - | Receptacle or fiber pigtail |
| Fiber type | - | SM, PM |
| Operating Temp. | °C | 15-50 |
| Storage Temp. | °C | 5-70 |
| Power supply (E version) | V | 12 (DC) |
| Dimension | mm | Electrical: 220x110x44 Manual: 160x90x44 |

* Tuning range can significantly vary depending on FBG specifications including the FWHM.

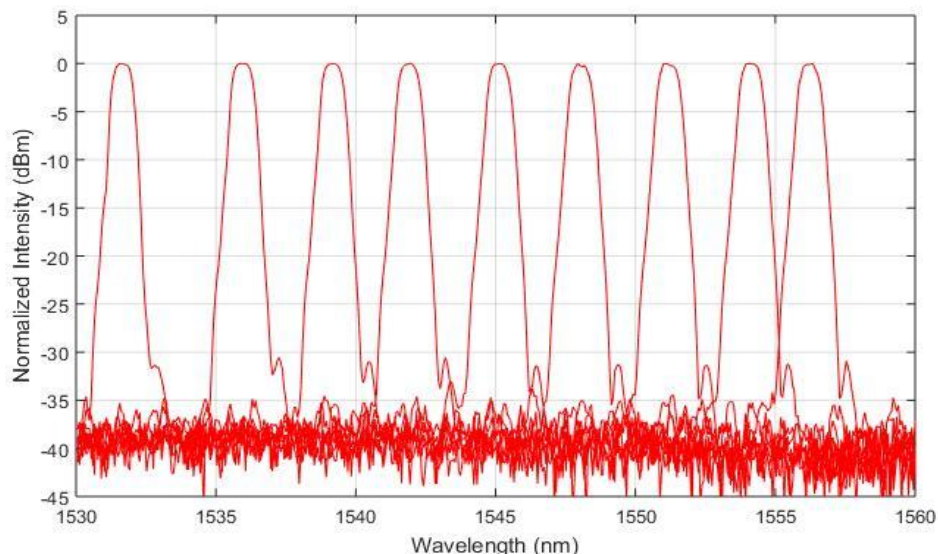


Fig.1. FBG reflection spectra over the tuning range.

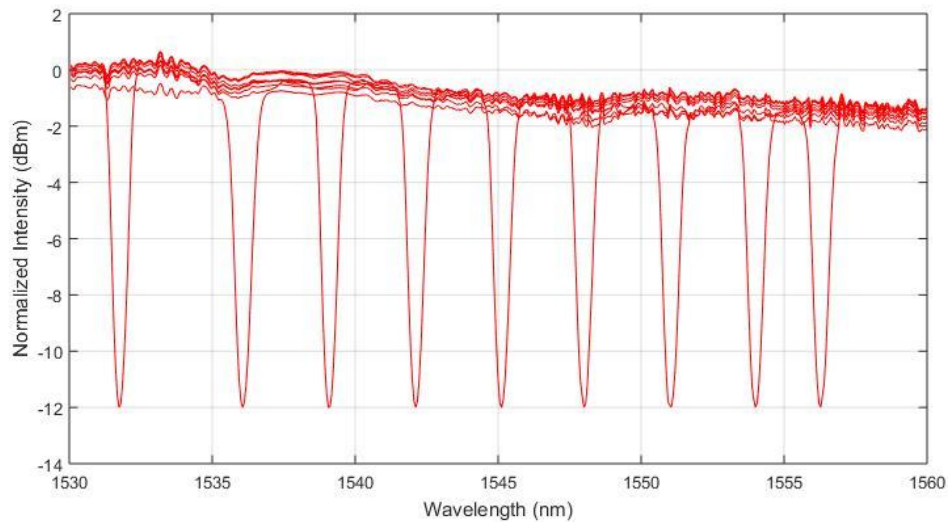
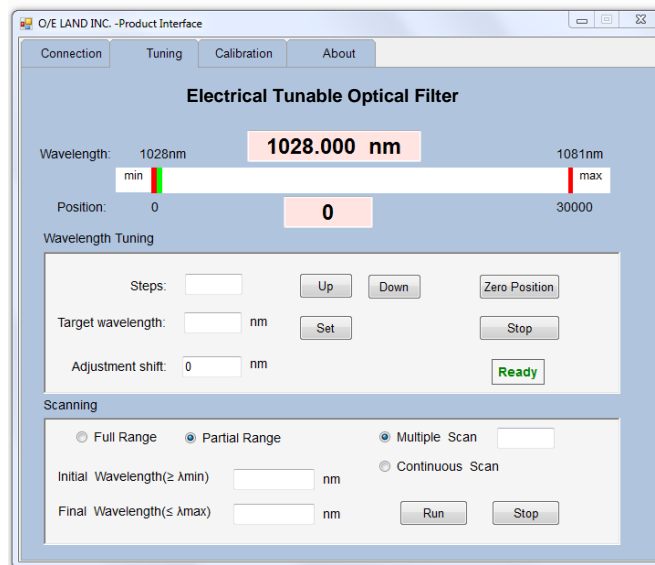


Fig.2. FBG transmission spectra over the tuning range.

Interface (Electrical version):

The main window of the interface in electrical version looks like the following figure, where the user can easily set the target wavelength or scan (single or continuous) between two specified wavelengths.



Ordering number:

| OEFBG-TUN-STU-WL-TR-BW- Type: | WL | TR | BW | Type |
|----------------------------------|-----------------------------|-------------------|--------------|----------------------------|
| | Wavelength (nm) | Tuning range (nm) | 3-dB BW (nm) | E: electrical M: manual |
| Example: | OEFBG-TUN-STU-1550-10-0.5-E | | | |



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