

Compact tunable filter

Key design features include:

- *Compact*, high performance Fabry-Perot Etalon *tunable filter* with low insertion loss and high contrast ratio
- Good wavelength stability and narrow spectral width, suitable for Telecom, optical sensing, and spectroscopy
- Built-in optical circulator for measurements in reflection mode and for work in optical add-drop configuration
- Rigid fiber design has fewer discrete components, providing *better reliability at lower cost*
- Built-in internal and external wavelength control.



Specifications:

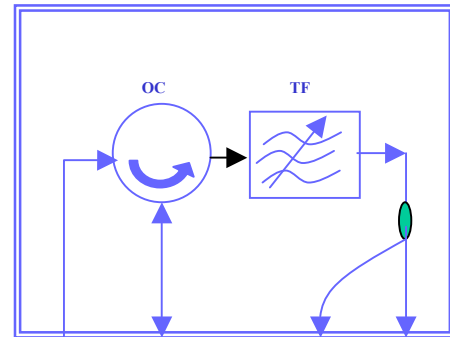
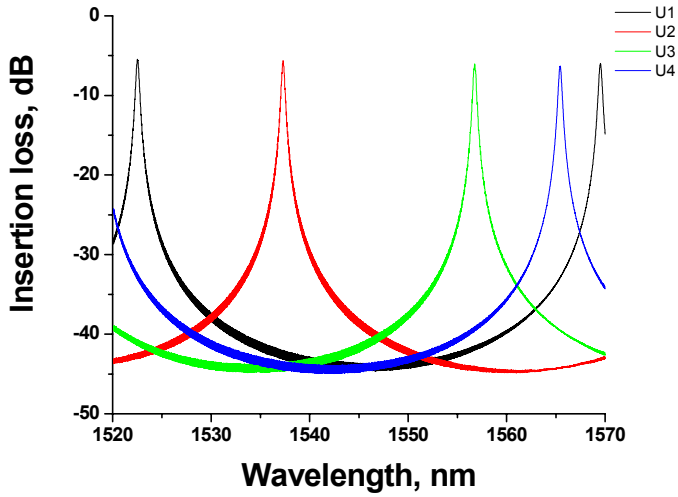
| Description | Min | Typical | Max | Unit |
|--|----------------|---------|------|------|
| Operating wavelength range | 1520-1570 | | | nm |
| Bandwidth (BW @ 3dB) at 1555 nm | 0.4 | 0.47 | 0.5 | nm |
| Finesse | 100 | 120 | 130 | - |
| Insertion loss at 1555 nm @ 25C, dB (input-output channel with 100% F/O mirror on DUT) | 3.8 | 4 | 5 | dB |
| Return loss, dB | >40 | 55 | 60 | dB |
| Free spectral range (FSR), nm | 50 | 56.4 | 70 | nm |
| Dimensions | 150 × 180 × 50 | | | mm |
| Tuning voltage per FSR | 9 | 9.25 | 12 | V |
| Maximum voltage | 12 | | | V |
| Polarization dependant loss | <0.1 | 0.15 | 0.25 | dB |
| Number of optical outputs | 1 | 2 | 3 | - |
| Connector type | FC/APC | | | |
| Fiber type | 9/125/900 | | | um |
| Operating temperature | 15 | 25 | 35 | °C |

ODB-3 operates with an external wall-plug type power supply (12Vx0.5A).

ODB-3 is compact tunable filter, operating within optical “C”-band, designed for different laboratory and industrial applications demanding high-resolution and low insertion loss (Telecom, Optical sensing, Raman spectroscopy, wavelength conversion, etc.)

Central wavelength of the filter can be continuously tuned using internal controller or an external voltage source (DAC). Built-in low insertion loss optical circulator provides additional functionality for testing active optical components in reflection mode and

provides an easy way for building add-drop filters for Telecom experiments. Light from tunable filter is delivered to two APC connectorized optical outputs through a 10 dB optical divider (for optical monitoring, BERT measurements etc).



Optical Schematics

Typical band-pass spectra of ODB-3 operating at different external wavelength control voltage.