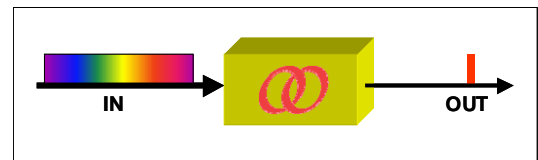


## Tunable Optical Filter

Optoplex's **Tunable Optical Filter**, including **Tunable Bandpass Filter** and **Tunable Edge Filter**, is an integrated module, consisting of micro-optics and electronics. When receiving a stream of optical signals of a plurality of wavelengths from the Input-Port (IN), the 2-port Tunable Optical Filter directs a selected channel to the Output-Port (OUT). The selected channel can be varied (tuned) within the operating wavelength (frequency) range by a remote command sent through the built-in control PCB and firmware.

Optoplex's Tunable Optical Filter is based on a patented micro-optic design and thin-film filter coating technology. The *thin-film filter* used in the optical tunable filter is similar to those already widely used in DWDM devices. The wavelength tuning is achieved by varying the incident angle of the incoming light beam on the *thin-film filter*. Each single device is optimized to cover either C- or L-band wavelengths. The standard optical tunable filter product family supports 100- and 50-GHz channel spacing.

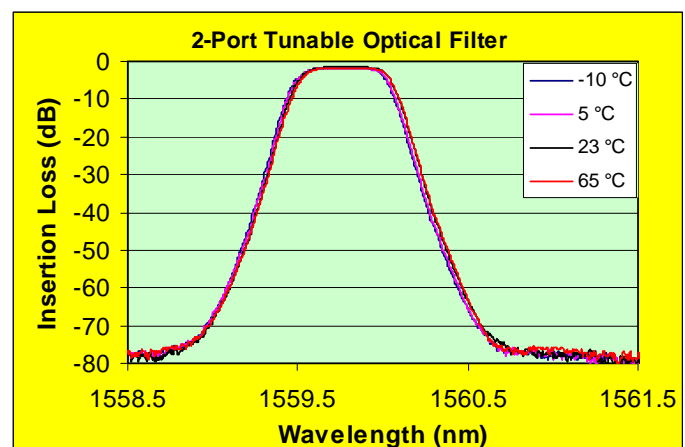


### Applications

- Dynamic wavelength selection in DWDM systems
- Signal demultiplexing for DWDMs
- Optical performance monitoring
- Tunable optical noise filtering
- Noise suppression for optical amplifiers

### Key Features and Benefits

- Athermal design
- Wide tuning range, covering entire C-band or L-band
- Flat and wide passband
- Low & uniform insertion loss
- High channel isolation
- Option for tunable bandpass & tunable edge filter
- Latching & low power consumption
- Option for electrical connector from side or bottom
- Telcordia GR-468 qualified



## Tunable Optical Filter Standard Product Datasheet<sup>1</sup>

Parameter	Unit	50 GHz	100 GHz
Wavelength Tuning Range	nm	C-band: 1528 ~ 1562, L-band: 1567 ~ 1603	
Wavelength Tuning Resolution	THz	~ 10 pm or Calibrated to ITU grids	
Passband Width <sup>1</sup> @ 0.5 dB	GHz	-	> 30
Passband Width <sup>1</sup> @ 1.0 dB	GHz	> 16	-
Passband Width <sup>1</sup> @ 3.0 dB	GHz	25 GHz (typical)	50 GHz (typical)
Passband Width <sup>1</sup> @ 20 dB	GHz	< 85	-
Passband Width <sup>1</sup> @ 25 dB	GHz	-	< 150
Peak Insertion Loss <sup>1</sup> (without connector)	dB	< 4.0	< 2.7
Polarization Dependent Loss <sup>1</sup>	dB	<0.3 within CW±5GHz	< 0.4 within CW±10GHz
Polarization Mode Dispersion	ps	0.5	0.3
Chromatic Dispersion <sup>1</sup>	ps/nm	< ±50 within CW ±5GHz	< ±25 within CW ±12GHz
Wavelength Setting Error <sup>2</sup>	GHz	< ±4	
Wavelength Repeatability <sup>2</sup>	GHz	±1	
Wavelength Temperature Dependence	pm/°C	< ± 1 (typical)	
Return Loss	dB	> 40	
Maximum Input Optical Power	mW	300	
Tuning Speed (channel to channel)	sec	<10	5 ~ 10
Tuning Power Consumption	mW	< 1800 (peak); < 300 (idle)	
Tuning Voltage	V	5 (DC)	
Electronic Interface	mW	RS232	
Operating Temperature	°C	0 to 65	
Storage Temperature	°C	-40 to 85	
Dimension (L×W×H) <sup>3</sup>	mm	84×61×16	

### Notes:

1. Over the stated spectral and operating temperature ranges and all polarization states.
2. Related to mechanical accuracy at a given temperature.
3. Including collimator sleeve and control PCB.

**Optoplex Corporation**, located in Fremont, California, is an ISO9001:2000 certified supplier of cutting-edge photonic components and modules for dynamic wavelength management and signal conditioning. The company designs, develops, manufactures, and markets innovative fiber-optic products to communications networks, and provides customized solutions to instrument, defense, spectroscopy and sensing industries. By combining its proprietary optical design and packaging technology with its state-of-the-art optical coating expertise and facility, Optoplex supplies DPSK demodulators, DQPSK demodulators, 90° optical hybrids, 2-port tunable optical filters, 3-port reconfigurable optical add/drop multiplexers (ROADMs), optical interleavers, flat-top comb filters, optical performance monitors (OPMs), and portable spectrometers.