

α Tunable Filter

Features / Benefits

- Excellent thermal stability
- High scanning speed
- Small package size
- Customizable sweep range
- High resolution for accurate spectrum analysis
- Low insertion loss
- Low PDL

Applications

- High resolution optical spectrum analysis (OSA)
- Optical performance monitoring (OPM) and optical channel monitoring (OCM)
- Tunable channel add/drop for WDM
- Tunable optical noise filtering
- Tunable laser and instrument
- Optical IR spectroscopy
- Sensor application and optical/electronic warfare
- Biomedical imaging and testing
- Medical diagnosis
- Environmental protection, food safety, anti-drug, and anti-terrorism applications



The Lightwaves2020 Fiber-Optics a Tunable Filter is α tunable optical filter to choose specified wavelength over certain range. The wavelength tuning is achieved by applying a control voltage. The typical wavelength scanning frequency is $>1\text{kHz}$.

This tunable filter can be customized to different operation wavelengths and scanning range. In addition to low polarization dependent loss (PDL) performance, its thermal stability is exceptional with a TEC package.



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Optical Specifications

Parameters	Unit	Specification
Operating Wavelength Range ¹	nm	C-, L-, or C+L-band
Scanning Wavelength Range ²	nm	35, 80, or customer specified
Standard Finesse	-	100, 200, 500, 1000, 2000, 4000, or customer specified
Bandwidth @ -3dB ³	nm	0.4, 0.2, 0.1, 0.05, 0.02 or customer specified
Insertion Loss ⁴	dB	3 (Typical)
Side-lobe Suppression Ratio	dB	≥ 20
PDL	dB	< 0.2
PMD	ps	< 0.1
Scanning Speed	kHz	5 (Typical)
Control Voltage, V_{FSR} , for one Free Spectrum Range tuning (without driver) ⁶	Volt	0-160 VDC
Control Voltage, V_{FSR} , for one Free Spectrum Range tuning (with driver)	Volt	0-5 VDC

Note: 1. Other wavelength range is also available upon request.

2. Scanning wavelength range can be specified within the range of 20nm ~ 150nm. Outside this range is also available upon special request.

3. 3dB bandwidth can be estimated by formula, 3dB bandwidth ~ scanning wavelength range / finesse.

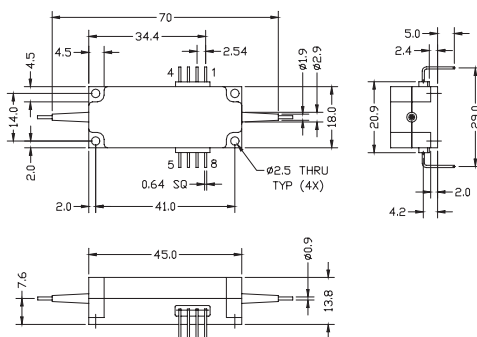
4. Depend on finesse. IL < 2.0 dB is achievable upon special request.

5. Filter with > 5 kHz scanning speed is also available upon special request.

6. Lower control voltage version, $V_{FSR} < 150$ VDC, is also available upon special request.

7. All specification referred without connectors.

Dimensions



Units: mm

Ordering Information

F	O	T	F						A		0	0		
														Connector
														0= None
														1= FC/UPC
														2= FC/APC
														3= SC/UPC
														4= SC/APC
														5= LC/UPC
														6= MU/UPC

Wavelength	FWHM	Scanning Range		Pigtail Type
1= C-band	1= 0.4nm	eg: 035= 35nm	1= without Driver	0= 250 μ m bare fiber
2= L-band	2= 0.2nm	080= 80nm	2= with Driver	1= 900 μ m loose tube
3= C+L band	3= 0.1nm			
4= others	4= others			

* This product information is subject to change without notice