

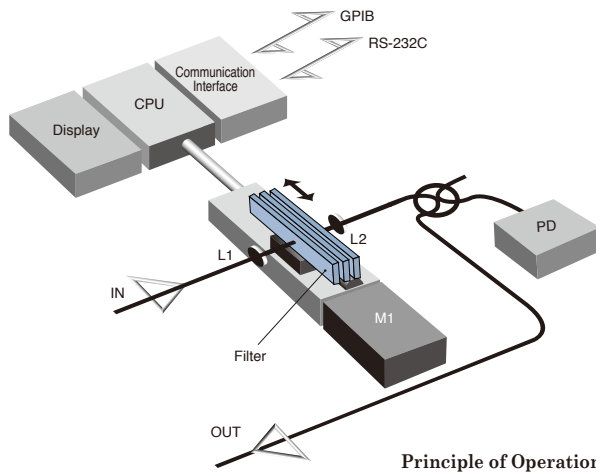
# Optical Tunable Filter OTF-930

The OTF-930 is a polarization independent 80nm tunable filter. Santec's unique "Linear Sliding" technology enables precise, continuous wavelength tuning with constant optical properties such as PDL, bandwidth and insertion loss. A breakthrough in filter design enables this device to achieve a very low insertion loss. The instrument is designed to allow filters to be cascaded to increase filter isolation with minimal increase in insertion loss. A wide selection of filters is available to suit most fiber optic applications.



## Features

- ▶ 80nm tuning range
- ▶ Low insertion loss
- ▶ Low PDL(<0.1dB) & PMD (<0.1ps) over whole tuning range
- ▶ 0.01nm resolution
- ▶ Full GPIB support



## Applications

- ▶ **ASE Noise Suppression**  
When optical signals are amplified using EDFAs, unwanted levels of amplified spontaneous emission (ASE) can decrease the signal-to-noise ratio. The OTF-930 with 08-S1, 08-S2 or 12-S2 filters can remove the ASE noise with minimal loss.
- ▶ **Wavelength Channel Selection**  
The 03-S2 filter configuration is particularly suitable for selecting a single DWDM wavelength from a 100GHz grid. Other filters can be used to select other ITU grid spaced signals.
- ▶ **Incoherent Light Source**  
When used in combination with a broadband light source the OTF-930 can be configured as a tunable light source. Although the output power is relatively low (-30 to -20dBm) the incoherent light is especially useful for applications which are affected by coherent resonance effects or non-linear interference.

## Filter Structure

Single (S1)	Double (S2)	Triple (S3)

## Filter Selections

Filter type	03			04			06		
Filter Structure	S1	S2	S3	S1	S2	S3	S1	S2	S3
Bandwidth @-3 dB (nm)	0.4±0.1	0.3±0.1	0.25±0.1	0.5±0.1	0.35±0.1	0.3±0.1	0.7±0.1	0.5±0.1	0.4±0.1
Bandwidth @-20 dB (nm)	<3.8	<1.5	<1.2	<5.0	<1.7	<1.2	<7.5	<2.4	<1.5
Insertion Loss (dB)	3.5	6	7.5	3	5	6.5	2.5	3	4
Chromatic dispersion (ps/nm) (typ.)	23	33.5	35	18	21.5	26	6.5	14.5	26.5
	-19	-31.5	-23	-12.5	-17.5	-17	-6.5	-11	-17.5

Filter type	08			12			24			50
Filter Structure	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1
Bandwidth @-3 dB (nm)	0.95±0.1	0.65±0.1	0.5±0.1	1.3±0.1	0.9±0.1	0.7±0.1	2.9±0.3	1.95±0.3	1.5±0.3	5.5±1.0
Bandwidth @-20 dB (nm)	<9.8	<3.0	<2.2	<15.0	<4.5	<3.0	<32.0	<10.0	<6.5	<60(Typ.)
Insertion Loss (dB)	2	3	3.5	2	2.5	3	2.5	2.5	2.5	2.9
Chromatic dispersion (ps/nm) (typ.)	7	8	12	3.5	5	8	3.5	3.5	3.5	-
	-7	-5	-10.5	-4	-5	-5.5	-3.5	-3.5	-3.5	-

Filter type	05 (1500-1630nm)			12 (1270-1350nm)		
Filter Structure	S1	S2	S3	S1	S2	S3
Bandwidth @-3 dB (nm)	0.5±0.1	0.35±0.1	0.3±0.1	1.3±0.15	0.9±0.1	0.7±0.1
Bandwidth @-20 dB (nm)	<5.0	<1.7	<1.2	<15.0	<4.5	<3.0
Insertion Loss (dB)	4.5 *1	6.5 *1	8 *1	3	3.5	4
Chromatic dispersion (ps/nm) (typ.)	18	21.5	26	3.5	5	8
	-12.5	-17.5	-17	-4	-5	-5.5

\*1: The insertion loss at (1500 - 1530nm) and (1610 - 1630nm) wavelength range may increase by 1dB.

## Specifications

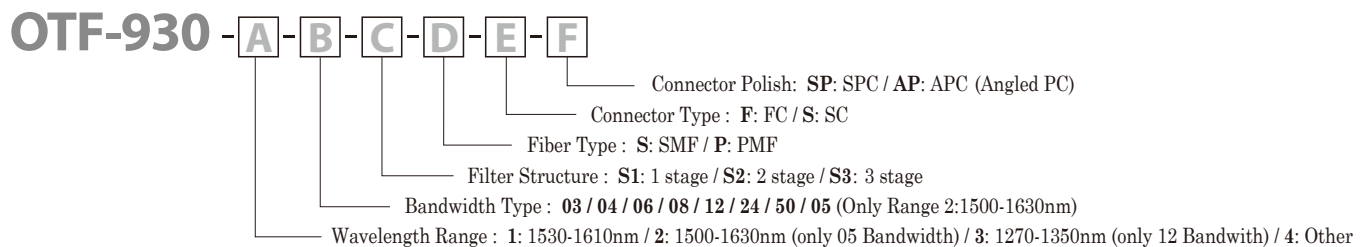
Category	Parameter	Unit	Spec	Notes
Wavelength Characteristics	Tuning Range	nm	1530-1610 1500-1630 (05 bandwidth) 1270-1350 (12 bandwidth)	
	Resolution	nm	0.01	Mechanical resolution
	Accuracy	nm	<±0.1, <±0.15(24), <±0.2(50)	
	Repeatability	nm	<±0.05, <±0.1(50)	n=50/ Measured at center wavelength of slider
	Temperature Stability	pm/°C	2	
Power Characteristics	PDL (SMF)	dB	<0.2	Filter Structure(S2) and (S3)
	Insertion Loss *1	dB		Refer to "Filter Selections" (Typ.)
	Return Loss	dB	>45	
Power Monitor	Relative Accuracy	dB	<±0.1	Output Power : -20~+10dBm
Max Rating	Maximum Input Power	dBm	+20	Damage Threshold
PMD	PMD	ps	<0.1	Design guaranteed performance
Environmental Conditions	Operating Temperature	°C	20- 30	
	Operating Humidity	%	<80 RH	Non condensing
Interface	Optical Fiber	-	SMF or PMF *2	
	Optical Connector	-	FC or SC	
	Connector Polish	-	SPC or APC	*3
Power supply	Communication Interface	-	GPIOB (IEEE-488) & RS-232C	
	Voltage	V	AC100-240	
Dimensions	Frequency	Hz	50/60	
	Power Consumption	VA	35@230 to 240V 30@100 to 120V	
	Width x Height x Depth	mm	210 x 80 x 300	
	Weight	kg	4	

\*1: In case of PMF, the insertion loss increases by 1.0 dB.

\*2: In case of PMF, Polarization extinction ratio 20 dB (typical), Polarization axis in alignment with connector key

\*3: SPC = Super Physical Contact, APC = Angled Physical Contact

## Ordering Code



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