Motorized Tunable Bandpass Filter

DiCon's Motorized Tunable Bandpass Filter is a TTL-driven component that tunes the center wavelength of a narrow passband filter over a 30-nm range within the 1550-nm window. Wavelength selection is made by adjusting the filter angle using a high precision motor with either the I^{2}C standard interface or a proprietary Step-Up/Step-Down interface.

Features

- Narrow bandwidth
- Excellent tuning resolution
- Broad tuning range
- Very low insertion loss
- Direct motor control or absolute wavelength setting

Applications

Motorized tunable bandpass filters are used to dynamically select among different wavelength channels at the receiver side of dense WDM transmission systems. Other applications include tuning the center wavelength of incoherent broadband sources (such as white light sources or LEDs) in laboratory test and measurement systems.
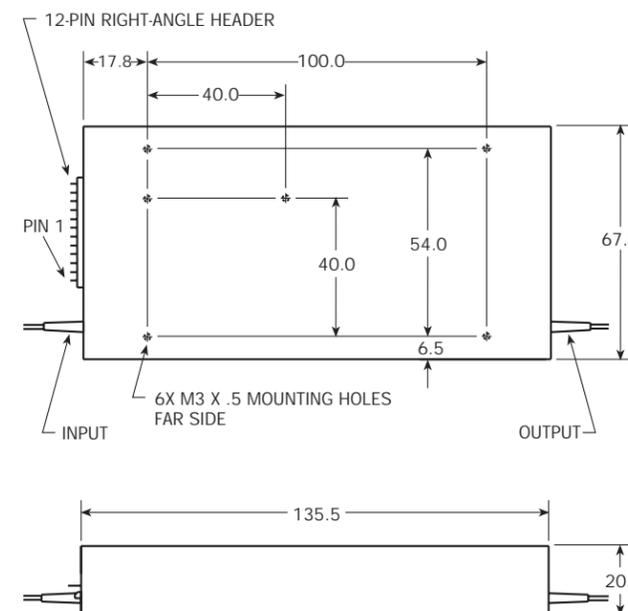
Specifications[1]

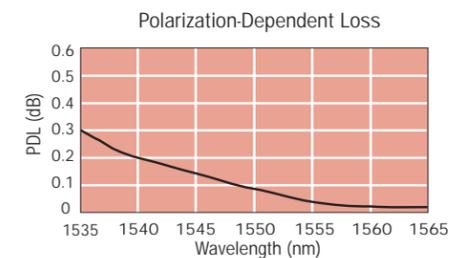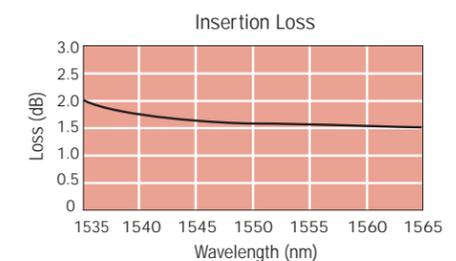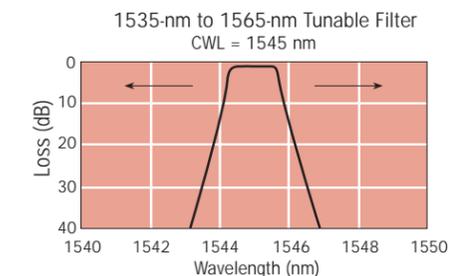| Turning resolution	0.05 nm typ.
0.5-dB bandwidth	0.8 nm min.
Repeatability	±0.05 nm typ.
Absolute accuracy	±0.3 nm max.
Insertion loss[2]	1.5 dB max.
Back-reflection	-50 dB max.
PDL[2]	0.05 dB typ.
Tuning speed	50 ms min., 1400 ms max.
Fiber type	9/125 Corning SMF-28
Fiber jacket	0.9 mm, tight buffer
Operating temperature	0°C to +50°C
Storage temperature	-20°C +70°C
Humidity	40°C/90%RH/5 days
Power requirements	±12 VDC in, 350 mA max.

1. All specifications referenced without connectors.
2. Measured at maximum center wavelength.

Housing Dimensions

Units: mm
Electrical connector is 12-pin right-angle header (Molex part number 22-12-2124). Mate with Molex part number 22-01-3127 or equivalent.

Optical Performance

1535-nm to 1565-nm Tunable Filter
CWL = 1545 nm

Insertion Loss

Polarization-Dependent Loss

Ordering Information

TF500 - ☐ - 0.8 - ☐ - ☐

Tuning Range[1]

1565	1535.0 - 1565.0 nm

Connector Type

FC	FC/SPC
FC/APC	FC/APC
FC/UPC	FC/UPC
SC	SC/SPC
SC/APC	SC/APC
SC/UPC	SC/UPC
ST	ST/SPC
ST/UPC	ST/UPC
LC	LC/UPC
N	None

Pigtail Length

1	1 meter
X	Specify X meters

1. All wavelengths referenced to vacuum.

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