LEAD Fiber Optics
PRODUCT CATALOGUE

FILTER WDM MODULE
Filter WDM Module

Filter WDM Module utilize high performance thin film interference filters to separate and combine optical transmission. They are ideal for high power optical amplification system and WDM network applications. Filter WDM Modules are bi-directional component optimized for a variety of applications including ONU and OLT equipment units.

We provide both Singlemode and Multimode Filter WDM Modules

**Singlemode Filter WDM Module** - Singlemode Filter WDM separates/combines two wavelength windows, one is around 1310nm and the other is around 1550nm. The bandwidth of the 1310nm and 1550nm channel can be +/-40nm, filtered out from 1270nm to 1350nm and 1510nm to 1590nm wavelength range.

**Multimode Filter WDM Module** - Multimode Filter WDM separates/combines two wavelength windows, one is around 850nm and the other is around 1310nm. The bandwidth of the 850nm and 1310nm channel can be +/-50nm, filtered out from 800nm to 900nm and 1260nm to 1360nm wavelength range.

LFO Filter WDMs filters low insertion loss, high transmission and reflection channel isolation, bi-directional operation, an epoxy-free optical path, and are available in both controlled and outdoor environment versions. More importantly, our Filter WDMs products offer high isolation on the return channel which is critical for video insertion and demultiplexing.

We provide filter-based Filter WDM Module that are customized to the particular wavelength bands for your special applications, Custom packaging are also available.
**Singlemode Filter WDM Unit**

Singlemode Filter WDM unit is designed to separates/combines two wavelength windows, one is around 1310nm and the other is around 1550nm. The bandwidth of the 1310nm and 1550nm channel can be +/-40nm, filtered out from 1270nm to 1350nm and 1510nm to 1590nm wavelength range.

**Multimode Filter WDM Unit**

Multimode Filter WDM unit is designed to separates/combines two wavelength windows, one is around 850nm and the other is around 1310nm. The bandwidth of the 850nm and 1310nm channel can be +/-50nm, filtered out from 80nm to 900nm and 1260nm to 1360nm wavelength range.
### Singlemode Filter WDM Unit

#### Features

- Environmentally stable
- Wide band pass
- Low insert loss
- Low loss and Low cross-talk
- Low Polarization dependent loss
- Optical path epoxy free

#### Applications

- Telecommunications
- Local area network
- Fiber optic sensors
- Test instruments
- RFTS & CATV & FTTH

#### Specifications

<table>
<thead>
<tr>
<th>ITEM</th>
<th>VALUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation Wavelength (nm)</td>
<td>1270<del>1350 &amp; 1510</del>1590 or Customer Specify</td>
</tr>
<tr>
<td>Insertion Loss, dB</td>
<td>Typical 0.5, Max 0.7</td>
</tr>
<tr>
<td>Pass band Ripple, dB</td>
<td>≤0.3</td>
</tr>
<tr>
<td>Isolation, dB</td>
<td>≥15(reflect channel), ≥40(pass channel)</td>
</tr>
<tr>
<td>Optical Return Loss</td>
<td>≥45</td>
</tr>
<tr>
<td>Directivity, dB</td>
<td>≥50</td>
</tr>
<tr>
<td>Thermal Stability, dB / °C</td>
<td>≤0.005</td>
</tr>
<tr>
<td>Polarization Dependent Loss, dB</td>
<td>≤0.05</td>
</tr>
<tr>
<td>Polarization Mode Dispersion, ps</td>
<td>≤0.1</td>
</tr>
<tr>
<td>Max. Optical Power, mW</td>
<td>300</td>
</tr>
<tr>
<td>Max. Tensile Load, N</td>
<td>5</td>
</tr>
<tr>
<td>Storage Temperature, °C</td>
<td>-40°C ~ 85°C</td>
</tr>
<tr>
<td>Operation Temperature, °C</td>
<td>0°C ~ 65°C</td>
</tr>
<tr>
<td>Package Size, mm</td>
<td>ψ5.5 x 34 mm for coated fiber (250 μm)</td>
</tr>
<tr>
<td></td>
<td>ψ5.5 x 39 mm for loose tube cable (900 μm)</td>
</tr>
</tbody>
</table>

Singlemode Filter WDM Unit  Ordering  information

Connector (Com / P1&P2)
- 11-ST
- 21-FC/PC
- 22-FC/APC
- 31-SC/PC
- 32-SC/APC
- 41-LC/PC
- 51-MU/PC
- 00-None
- XX-Others

Wavelength
- 35-1310 / 1550 nm (reflect / pass)
- 53-1550 / 1310 nm (reflect / pass)
- XX-Other

Fiber type
- S- Singlemode fiber

Package option (for both ends)
- C1-Coated fiber (250um)
- C2-Coated fiber (250um) w / boot
- L1-Loose tube cable (900um)
- L2-Lose tube cable (900um) w / boot
- XX-Others

Pigtail length
- 100- 100cm
- XXX-Others

WD-SF  XX/XX  XX  XX  X  XXX(cm)

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Multimode Filter WDM Unit

Features
- 850/1310nm operating wavelength
- Wide band pass
- Low insert loss
- Low cross-talk
- High isolation

Applications
- Telecommunications
- Local area network
- Fiber optic sensors
- Test instruments
- RFTS & FTTH

Specifications

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<tr>
<td>Operation Wavelength, nm</td>
<td>850 reflect &amp; 1310 pass or Customer Specify</td>
</tr>
<tr>
<td>Insertion Loss, dB</td>
<td>Typical 0.9</td>
</tr>
<tr>
<td></td>
<td>Max 1.2</td>
</tr>
<tr>
<td>Isolation, dB</td>
<td>≥ 40 dB (C→P2 @ 850nm VCSEL)</td>
</tr>
<tr>
<td></td>
<td>≥ 15 dB (C→P1 @ 1310nm VCSEL)</td>
</tr>
<tr>
<td></td>
<td>≥ 20 dB (C→P1 @ 850nm LED)</td>
</tr>
<tr>
<td></td>
<td>≥ 15 dB (C→P2 @ 1310nm LED)</td>
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<tr>
<td>Thermal Stability, dB / °C</td>
<td>≤ 0.005</td>
</tr>
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<td>Max. Tensile Load, N</td>
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Multimode Filter WDM Unit  Ordering  information

WD-MF  XX/XX  XX  XX  X  XXX(cm)

Wavelength
83-800-900 nm / 1260-1360 nm (reflect / pass)
XX-Other

Fiber type
2- 50/125um fiber
3- 62.5-125um fiber

Pigtail length
100- 100cm
XXX-Others

Package option (for both ends)
C1-coated fiber (250um)
C2-coated fiber (250um) w / boot
L1-loose tube cable (900um)
L2-loose tube cable (900um) w / boot
XX-Others

Connector (in/out)
11-ST
21-FC/PC
22-FC/APC
31-SC/PC
32-SC/APC
41-LC/PC
51-MU/PC
00-None
XX-Others

Pigtail length
100- 100cm
XXX-Others

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11-ST
21-FC/PC
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XX-Others