Prisma® CWDM Filters

Coarse Wave Division Multiplexing (CWDM) has gained prevalence in multi-wavelength digital transport architectures because it enables the use of very low cost un-cooled DFB laser transmitters. Moreover, powering requirements are reduced and reliability is increased.

Prisma® CWDM filters provide the essential wavelength muxing/demuxing in these systems. Configurations of 1, 4, 8 or 10 channels are available to provide maximum design flexibility. The single channel version can be ordered in any of the 10 standard ITU-grid wavelengths and functions as Optical Add-Drop Mux (OADM). The 4, 8 and 10 channel versions are designed for minimum flat insertion loss.

Figure 1.   CWDM Filter in LGX style module & WDM OADM in raw filter package
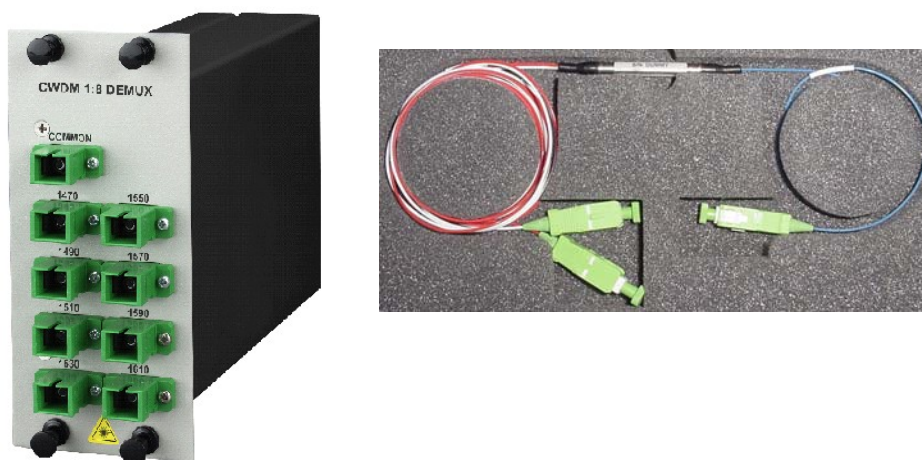
Features

- Available in single channel Add/Drop or 4, 8 and 10 channel versions on standard ITU-grid wavelengths (1431 nm-1611 nm) on 20 nm spacing
- Low Insertion loss (4, 8 and 10 channel versions optimized for minimum flat insertion loss)
- SC/APC connectors standard, other options available
- Industry Standard LGX-Style enclosures for indoor device
- Raw-filter or cassette style package for outside plant applications
- OADM available in raw-filter style package for outside plant applications
- Mux/Demux available in cassette style package for outside plant applications
- Applications such as Service Navigators, Games, and many other future applications

Product Specifications

Table 1.   Optical Performance Specifications

Description	Value			
Center Wavelength (nm)	1431, 1451, 1471, 1491, 1511, 1531, 1551, 1571, 1591, 1611			
Insertion Loss (dB) (includes connectors)	1-Ch OADM *	4-Ch. Mux/Demux	8-Ch. Mux/Demux	10-Ch. Mux/Demux
	<1.2 (pass) <0.8 (Reflect)	2.2	3.0	3.3
Isolation (dB)	>30 (pass channel) >12 (Reflect Channel)	>30 (Adjacent Channel) >40 (non-adjacent channel)		

* The pass channel is the desired add/drop channel and reflect channels are all other channels.

Table 2.   General Specifications

Description	Units	Value
Passband	nm	13 @ -0.5 dB
Passband Ripple	dB	<0.5
Uniformity	dB	<1.0
PDL	dB	<0.25
PMD	ps	<0.2
Thermal Stability	nm/°C	<0.008
Directivity	dB	>55
Optical Return Loss	dB	>50
Dimensions (LGX compatible)	in.	5.14H x 1.15W (single wide module) 5.14H x 2.3W (double wide module)
Dimensions (Filter)	in.	Ø 0.18 x 3.0 (900 µm loose tube fiber)
Dimensions (Cassette)	in.	1.84L x 1.1W x 0.34H
Operating Temperature	°C	-20 to +65 (For LGX module) -40 to +65 (For filter)

Ordering Information

Table 3. Ordering Information

Description	Part Number In LGX Package	Part Number In Filter or Cassette Package
OADM CWDM, 1610 nm	4003504	4004864
OADM CWDM, 1590 nm	4003505	4004865
OADM CWDM, 1570 nm	4003506	4004866
OADM CWDM, 1550 nm	4003507	4004867
OADM CWDM, 1530 nm	4003508	4004868
OADM CWDM, 1510 nm	4003509	4004869
OADM CWDM, 1490 nm	4003510	4004870
OADM CWDM, 1470 nm	4003511	4004871
OADM CWDM, 1450 nm	4009096	4004872
OADM CWDM, 1430 nm	4009095	4004873
CWDM, 1x10, MUX/DEMUX, 1430~1610 nm	4002270	n/a
CWDM, 1x8, MUX/DEMUX, 1470~1610 nm	4002271	4007298
CWDM, 1x4, MUX/DEMUX, 1510~1570 nm	4002272	4007297
Related Optical Passive Components	**Part Number**	
DataLinxs Patch Enclosure (2RU, LGX-compatible, 24-position, unloaded)	750180	
DataLinxs Patch Enclosure (3RU, LGX-compatible, 48-position, unloaded)	750181	
DataLinxs Patch Enclosure (4RU, LGX-compatible, 72-position, unloaded)	750182	
Patch Plate (LGX-compatible, 6-port, SC/APC adapters)	750189	
Prisma Singlemode Multiband Couplers/Splitters (LGX-Compatible)	See Data Sheet 751019	
Prisma Fixed Optical Attenuators	See Data Sheet 7002298	