

Prisma® O-Band Optical Passives

Increasing customer demands for advanced services and escalating competitive pressures are causing HFC network operators to consider strategic options. One popular alternative involves segmentation of the network to reduce service group size and increase effective per-home bandwidth.

Cisco's advanced O-band multi-wavelength optical transmitters and complementary optical passives provide innovative and economical forward path segmentation solutions in areas with fiber count limitations. Multiple optical wavelengths carrying differing content are multiplexed for transport on a common fiber and demultiplexed to feed the segmented service areas. Optimal performance is achieved by making use of up to six carefully selected O-band optical wavelengths (channels).

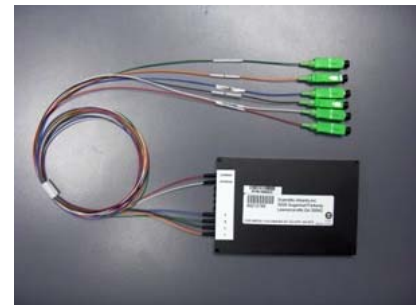
The Prisma O-band optical passives are designed to be used in conjunction with Prisma II Multi-wavelength High Density Transmitters. The passive optical multiplexers and demultiplexers (mux/demux) have filtering that match the transmitter wavelengths channel for channel, and are optimized for low insertion loss across the band. The indoor mux/demux units are available in industry recognized LGX form factor to allow easy, snap-in mounting in a variety of enclosures and cabinets. The demux is additionally packaged in cassette form for field deployment in extreme environmental conditions. A single channel Optical Add-Drop Mux (OADM) is also available in a raw filter package for field deployment.

Features

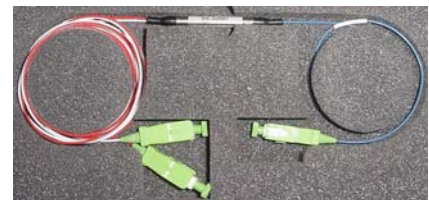
- Prisma mux/demux modules available in 2, 4, and 6 channel configurations
- Single channel Optical Add-Drop Mux (OADM) available for greater design flexibility
- Prisma mux/demux pairs optimized for the lowest combined insertion loss across all wavelengths
- Module for both mux and demux applications
- LGX-compatible modules easily snap in to a wide variety of enclosures and cabinets
- Industry-standard SC/APC adapters ensure connector compatibility; minimize back reflection and insertion losses; simplify moves, adds & changes; and reduce connector maintenance requirements



LGX Filter



Cassette Filter



Raw Filter

LGX Unique Specifications

	Units	2 ch	4 ch	6 ch
Common Port Insertion Loss (max)	dB	1.2	1.6	2.3
Upgrade Port Insertion Loss (max)	dB	0.8	1.4	2.0
Operating Temperature	°F °C	32 to 122 0 to 50		
Module Dimensions				
Depth (max)	in cm	6.26 15.9	6.26 15.9	6.26 15.9
Width	in cm	1.15 2.9	1.15 2.9	2.3 5.8
Height	in cm	4.0 10.2	4.0 10.2	4.0 10.2
Faceplate Height	in cm	5.1 13.0	5.1 13.0	5.1 13.0

Cassette and OADM Filter Unique Specifications

	Units	1 ch	2 ch	4 ch	6 ch
Insertion Loss (max)	dB	0.9	1.3	1.9	2.6
Upgrade Port Insertion Loss (max)	dB	0.6	0.9	1.6	2.3
Operating Temperature	°C	-40 to 85			
Module Dimensions (max)	mm	∅ 5 x 36	120 x 80 x 8		

*All ports have 900 μ loose tube with SC/APC connectors

Common Specifications

Parameter	Units	Specifications
Optical Wavelength Range	nm	1300-1340
Upgrade Port Optical Wavelength Range	nm	1260-1500
Channel Bandwidth @ -0.5 dB	GHz	$\lambda_c \pm 17.5$
Polarization Dependent Loss (PDL)	dB	≤ 0.10
Polarization Mode Dispersion (PMD)	ps	≤ 0.15
Directivity	dB	≥ 50
Isolation (max)	dB	>25 (adjacent channel) >15 (upgrade to common)
Optical Return Loss	dB	≥ 50
Storage Temperature Range	°F °C	-40 to +185 -40 to +85
Optical Connector Type		SC/APC adapters (all ports)
Optical Channels		A,B,C,D,E,F

Notes:

- Losses include input/output and common connector losses.
- Recommended for use in non-condensing environments only.
- Unless otherwise noted, specifications are based on measurements made in accordance with NCTA Practices for Measurements made on Cable Systems using standard frequency assignments.

Ordering Information

Model Number	Optical Channels	Part Number
LGX-MXDX-1X2-OBAND-AB-SC/APC w/UGP	A,B	4021047
LGX-MXDX-1X2-OBAND-CD-SC/APC w/UGP	C,D	4021048
LGX-MXDX-1X2-OBAND-EF-SC/APC w/UGP	E,F	4021049
LGX-MXDX-1X4-OBAND-AD-SC/APC w/UGP	A,B,C,D	4021050
LGX-MXDX-1X6-OBAND-AF-SC/APC w/UGP	A,B,C,D,E,F	4021051
CAS-DMUX-1X2-OBAND-AB-SC/APC w/UGP	A,B	4021216
CAS-DMUX-1X2-OBAND-CD-SC/APC w/UGP	C,D	4021217
CAS-DMUX-1X2-OBAND-EF-SC/APC w/UGP	E,F	4021218
CAS-DMUX-1X4-OBAND-AD-SC/APC w/UGP	A,B,C,D	4021219
CAS-DMUX-1X6-OBAND-AF-SC/APC w/UGP	A,B,C,D,E,F	4021220
OADM-FILTER-OBAND-A-SC/APC	A	4021221
OADM-FILTER-OBAND-B-SC/APC	B	4021222
OADM-FILTER-OBAND-C-SC/APC	C	4021223
OADM-FILTER-OBAND-D-SC/APC	D	4021224
OADM-FILTER-OBAND-E-SC/APC	E	4021225
OADM-FILTER-OBAND-F-SC/APC	F	4021226



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