

Prisma Band Wave Division Multiplexer (BWDM) Filters

Prisma® BWDM Filters provide a basic building block for multiplexing two or more bands of different optical wavelength signals on a single fiber. Typical applications include “overlay” of narrowcast and broadcast CATV signals and bidirectional transmission of signals. The Prisma BWDM 1310/1550 devices are designed to provide low insertion loss over a broad window in both 1310 and 1550 nm bands and to provide high isolation between the two bands. The fused 1310/1550 BWDM has lower insertion loss, and has a smaller form factor suited for outside plant usage.

The BWDM Red/Blue and Red/Blue/Purple are used to combine 2 groups of narrowcast optical signals in different bands. The BWDM 2 band and 5 band filters can be used to add up to 5 groups of 8-channel Mux/Demux to form a 40-channel 100 GHz system. The Prisma BWDM 1310/CWDM devices operate over the window in both 1310 and CWDM (1420 - 1620 nm) bands.

The Narrowcast/Broadcast (NC/BC) Combiner is an all-inclusive module used to simplify installation, maintenance and overall operation of multi-wavelength division multiplexing systems. This product has one common input for the broadcast signals and eight individual inputs for the (red or blue band) narrowcast signals. The outputs are a combination of narrowcast and broadcast signals and have a built-in non-intrusive 5% test point for verifying signal levels at each port. The NC/BC Combiner comes in either a 4 LGX size or 6 LGX size module. Both modules are the same optically, but the 6 LGX version has more space between the rows of connectors for easy access.

The Prisma BWDMs are packaged in an industry standard LGX-style module for indoor applications and in raw-filter style for outside plant usage.

Figure 1. 3-Port BWDM (1 LGX, Left) and NC/BC Combiner (4 LGX, Right)



Features

- *Supports Wide Window* in both bands
- *High Band-to-Band Isolation (>40 dB)* available for Prisma BWDM 1310/1550
- *Low Insertion loss*
- *Red/Blue and Red/Blue/Purple* for flexible design of analog DWDM systems
- *2 Band and 5 Band Filters* available for scalable 40-channel DWDM systems
- *4 Band Filters* for scalable 32-channel DWDM systems without skipping any channels
- *NC/BC Combiner* helps reduce the rack space and fiber jumper cable requirements and helps improve performance and increase reliability

Product Specifications

Table 1. General Specifications

Specification	Units	Common Specifications	Notes
Directivity	dB	≥50	
Optical Return Loss	dB	≥50 (SC/APC) ≥40 (SC/UPC or LC/UPC)	
Optical Power	mW	250 Maximum	
Environment Specifications			
Operating Temperature	°C	-5 to 65 for LGX -40 to 65 for Filter	
Tensile Load	N	5 Maximum	
Dimensions			
LGX Compatible	In. (H x W x D)	5.14 x 1.15 x 6.5 Maximum (1 LGX) 5.14 x 4.60 x 6.5 Maximum (4 LGX) 5.14 x 6.90 x 6.5 Maximum (6 LGX)	
Filter	In.	Ø 0.18 x 3.0	900 µm loose tube fiber (SC/APC)
Filter - Fused	In.	Ø 0.12 x 2.8	900 µm loose tube fiber (SC/APC)

Ordering Information

Table 2. Ordering Information

BWDM	Port	Operating Wavelength (nm)	Insertion Loss Max (dB)	Isolation Min (dB)	Part Number
1310/CWDM	1310	1280-1340	1.2	20	4004874 (LGX)
	CWDM	1420-1620	0.8	12	4004875 (Filter)
1310/1550 (High Isolation)	1310	1260-1360	1.3	40	739686 (SC/APC)
	1550	1500-1600	1.1	40	739687 (SC/UPC)
1310/1550 Fused WDM	1310	1290-1330	0.7	16	4019604 (Filter)
	1550	1530-1570	0.7	16	
CWDM High/Low Band	High	1464.5-1620	1.0	30	A90570.108 (SC/APC)
	Low	1260-1457.5	0.7	15	A90570.104 (E2000)
Quad 1310/1550	1310	1260-1360	1.0	40	4034491 (LC/UPC Quad)
	1550	1460-1620	1.0	30	
Red/Blue	Blue	1529.5-1542.5	1.5	10	912101-00-00
	Red	1548.5-1561.5	1.3	10	
Red/Blue/Purple	Purple	1543.6-1546.2	1.0	15	254602 (Single)
	Red/Blue	1528.5-1541.7 1549.0-1561.9	0.7	12	912262-00-00 (Dual)
2 Band (1)	Band 1	1558.8-1564.9	1.2	25	4005094
	Band 2-5	1530.1-1557.6	0.8	12	
2 Band (2)	Band 2	1551.5-1557.6	1.2	25	4005606
	Band 1, 3-5	1558.5-1564.9 1530.1-1550.3	0.8	12	
2 Band (3)	Band 3	1544.3-1550.3	1.2	25	4005607
	Band 1,2,4,5	1530.1-1543.1 1551.5-1565.0	0.8	12	
2 Band (4)	Band 4	1537.2-1543.1	1.2	25	4005608
	Band 1-3, 5	1544.3-1564.9 1530.1-1536.0	0.8	12	
2 Band (5)	Band 5	1530.1-1536.0	1.2	25	4005609
	Band 1-4	1537.2-1564.9	0.8	12	
5 Band	Band 1	1558.7-1565.0	2.2	25	4004353
	Band 2	1551.5-1557.6	2.2	25	
	Band 3	1544.3-1550.4	2.2	25	
	Band 4	1537.2-1543.2	2.2	25	
	Band 5	1530.0-1536.1	2.2	13	
4 Band	Band 1	1555.63-1561.54	2.0	15	4030120
	Band 2	1549.20-1555.06	2.0	15	
	Band 3	1542.82-1548.63	2.0	15	
	Band 4	1536.49-1542.26	2.0	12	
NC/BC Combiner	Broadcast	1543.6-1546.2	12 (BC to Common) 27 (BC to Test Port) 14 (Test Port to Common)	25 (BC/NC)	912276-00-01 (4 LGX)
	Narrowcast	1528.5-1541.7 1549.0-1561.9	2.5 (NC to Common) 15 (NC to Test Port) 14 (Test Port to Common)	25 (NC/BC)	254607 (6 LGX)

Note:

1. All BWDM Filters are in single-wide LGX package (1 LGX) with SC/APC connectors if not otherwise specified above.

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For More Information

To learn more about Cisco Prisma BWDM Filters, contact your local account representative.

To subscribe to receive end-of-life/end-of-sale information, go to: <http://www.cisco.com/cgi-bin/Support/FieldNoticeTool/field-notice>.



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Part Number 7002011 Rev J
January 2010