XSC Single Fiber series

CWDM passive optical components

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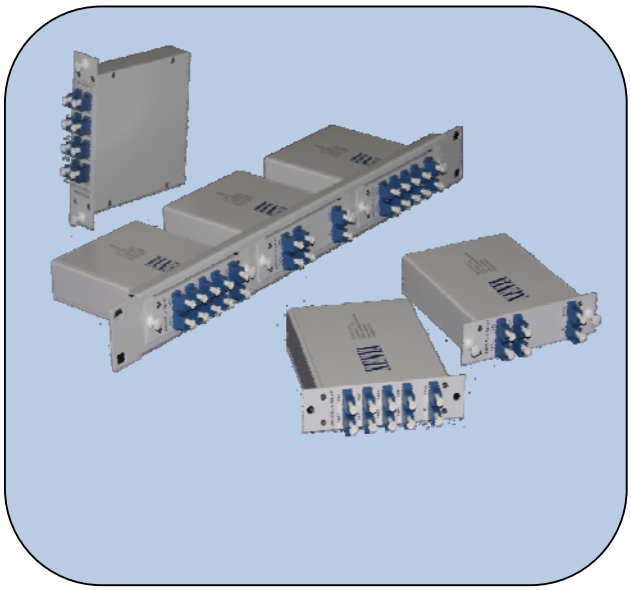
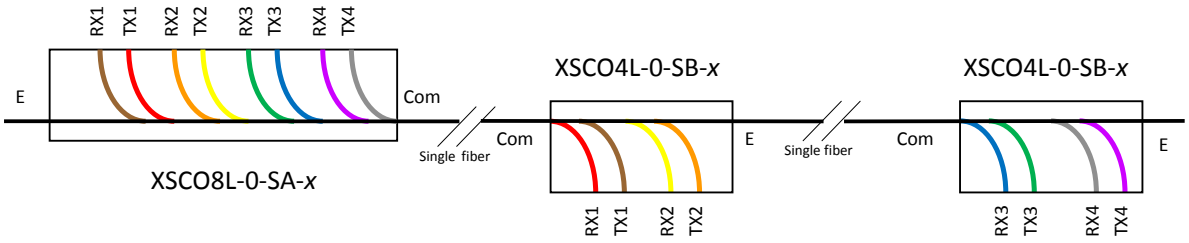


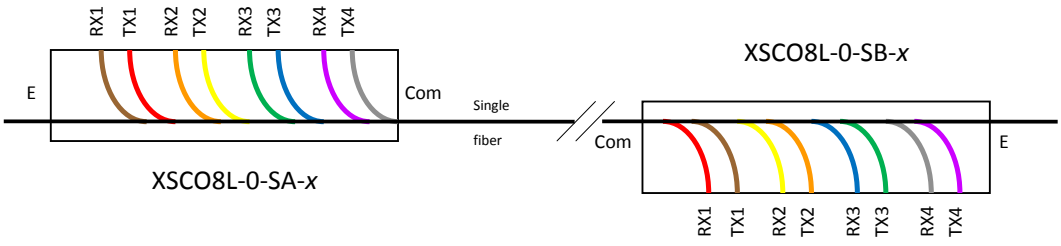
Fetures:

- Optimized for single fiber applications
- Simplified component interconnection system using standard dual patch cords eliminates most interconnection errors
- Up to 9 bidirectional channels using all 18 standard CWDM wavelengths
- Very low inter-channel attenuation ripple
- Modular design enables later expansion
- Lower attenuation models available on request
- Standard versions available from stock

Typical Applications:

- Optimization of fiber use in fiber based data transfer
- Concurrent transmission of different data formats i.e. Ethernet, Fiber Channel, TDM
- Out of band monitoring, fiber integrity and performance monitoring





Description:

XSC is a series of passive optical components optimized for use in single fiber CWDM transmission systems. Depending on fiber characteristics it enables transfer of up to 9 bidirectional channels over a single fiber strand using low cost CWDM transponders. Standard single mode fiber G.652, that

exhibits watermark peak attenuation, still allows transfer of at least 6 bidirectional channels and even more on shorter distances. All components are add/drop type (OADM) so they can be daisy-chained. System using multiple wavelength ranges can be easily integrated using standard components. Each bidirectional data channel consists of two consecutive wavelengths, each transferring data in one direction.

Terminal connections are designed so that standard dual SM patch cords can be used to connect to standard transponder equipment (i.e. SFP). Each type of optical component is available in two versions (A and B). Use of both versions – one at each side – enables that wavelengths within a channel connections are swapped and that attenuation between different channels is balanced.

Devices are installed in standard LGX module that snaps into 1U rack mount bracket. Up to three LGX modules can be inserted in single 1U rack mount bracket. There is also a selection of unmanaged transponder modules that can be installed in place of LGX module. Managed transponders must be installed in separate rack mount enclosure.

Ordering:	
XSCO2L-0-SA-*xx* XSCO2L-0-SB-*xx*	2 wavelengths (single channel single fiber) OADM
XSCO4L-0-SA-*xx* XSCO4L-0-SB-*xx*	4 wavelengths (dual channel single fiber) OADM
XSCO8L-0-SA-*xx* XSCO8L-0-SB-*xx*	8 wavelengths (quad channel single fiber) OADM
If wavelengths are all sequential ***xx*** is replaced by middle two digits of lowest wavelength of component. If wavelengths are not sequential ***xx*** is replaced with list of middle digits of all wavelengths separated by »/«.	

Any combination of standard CWDM (*ITU-T G.694.2*) wavelengths combinations can be ordered with delivery time of up to 6 weeks (4 weeks typical).
Following versions are usually available from stock:

XSCO10L-0-SA(B)-43	10 wavelengths (5 channel) OADM 1431 to 1611
XSCO8L-0-SA(B)-27	8 wavelengths (quad channel) OADM 1271 to 1411
XSCO8L-0-SA(B)-47	8 wavelengths (quad channel) OADM 1471 to 1611
XSCO4L-0-SA(B)-47	4 wavelengths (quad channel) OADM 1471 to 1531
XSCO4L-0-SA(B)-55	4 wavelengths (quad channel) OADM 1531 to 1611
XSCO4L-0-SA(B)-27	4 wavelengths (quad channel) OADM 1271 to 1331
XSCO2L-0-SA(B)-59	2 wavelengths (quad channel) OADM 1591, 1611
XSCO2L-0-SA(B)-55	2 wavelengths (quad channel) OADM 1551, 1571
XSCO2L-0-SA(B)-51	2 wavelengths (quad channel) OADM 1511, 1531
XSCO2L-0-SA(B)-47	2 wavelengths (quad channel) OADM 1471, 1491
XSCO2L-0-SA(B)-31	2 wavelengths (quad channel) OADM 1311, 1331

Technical Specifications

Parameter	Thin film CWDM OADM					Unit
	2 ch	4 ch	6ch	8 ch	10 ch	
Express Channel pass band	1331 to 1611					nm
Add Drop Channel	1271 to1661 nm					nm
Bandwidth @ -0.5dB	≥ 15					nm
IL @ Express Channel	≤ 1.1	≤ 1.8	≤ 2.4	≤ 3.1	≤ 3.6	dB
Express Channel Isolation	≥ 15					dB
ILmax @ Add/Drop (A & B component pair)	≤1.8	≤ 2.5	≤ 3.3	≤4.1	≤4.5	dB
ILmax @ Add/Drop (single component)	≤ 1.2	≤ 2.0	≤ 2.7	≤ 3.4	≤ 3.9	dB
Add-Drop Channel Ripple (A/B component pair)	≤ 0.4					dB
Polarization Dependent Loss (dB)	≤0.10					dB
Add Drop Channel Isolation (Adjacent)	≥ 30					dB
Add Drop Channel Isolation (Non Adjacent)	≥ 40					dB
Return Loss	≥ 45					dB
Directivity	≥ 50					dB
Optical Power Handling	≥ 500					mW
Operating Temperature	0 to +70					°C
Storage Temperature	≤ 1.1					°C
Connector Type	LC-PC					
Packaging Dimension	1U Aluminum LGX Box (130mm x 127mm x 30mm)					mm

Different packing and lower Insertion loss versions are available on request.

Typical connections layouts:

Single fiber Single side OADM examples

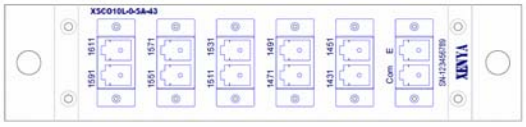


Figure 2 XCSO10L-0-SA-43 - Single fiber Single side 10 wavelengths CWDM OADM version A

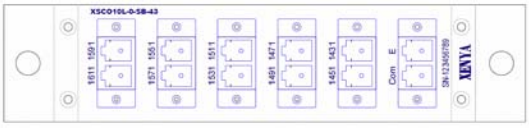


Figure 3 XCSO10L-0-SB-43 - Single fiber Single side 10 wavelengths CWDM OADM version B

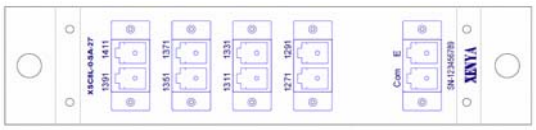


Figure 4 XCSO10L-0-SA-27 - Single fiber Single side 8 wavelengths CWDM OADM version A

Figure 5 XCSO4L-0-SB-55_A2 - Single fiber Single side 4 wavelengths CWDM OADM version B

Single fiber Dual side OADM examples

Figure 6 XCSO4L-0-DD-47 - Single fiber Dual side 4 wavelengths CWDM OADM (1471 to 1531nm)

Figure 7 XCSO4L-0-DD-55 - Single fiber Dual side 4 wavelengths CWDM OADM (1551 to 1611nm)

Designation

1	2	3	4	5		6		7	8		9
X	**S**	**C**	**OM**	**n**	**LR**	**-**	**01:5**	**-**	**SD**	**ABC**	**-**	**mm**

1	**X**enya **S**ingle fiber series
2	**C**WDM technology
3	**O**-OADM or **M** - MUX/DEMUX
4	Number of filters in packing
5	Type of packing: **L**- LGX, **R**-Rack mountable box
6	Tap: **0**-NoTap, **1**-**5**:1-5% tap, bidirectional
7	**S**-Singe side, **D**-dual side
8	**A**-Std. version A, **B**-Std. version B, **C**-Custom version,
9	Middle numbers of lowest wavelength for sequential wavelengths or List of middle numbers of all wavelengths separated with / **W** after wavelength numbers denote Wide band filter (i.e. 55W)

Optional accessories

XMR1	19” rack mounting bracket accommodates up to 3 LGX modules in 1U height
XMR1R	19” rack mounting bracket accommodates up to 3 LGX modules in 2U height, recessed
XMR2R	19” rack mounting bracket accommodates up to 6 LGX1 modules or 3 LGX2 modules in 2U height, recessed
XMR1B	blank panel for 19” rack mounting bracket
XMR1G1	Cable guide bracket enables guiding and fixing of all optical cables when installed with rack mount bracket

Optional Services:

- Optical fiber measurements and qualification
- Design and integration of complete system including active equipment
- Custom configurations and OEM production is possible for orders with typically at least 10 equal components.