

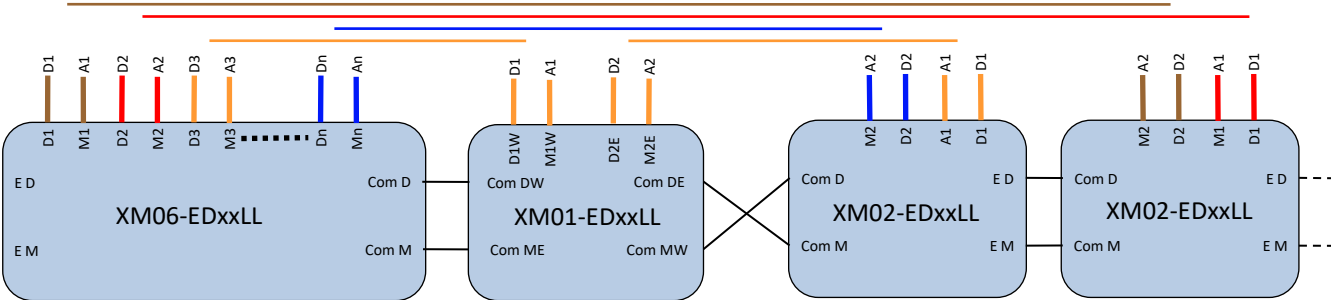
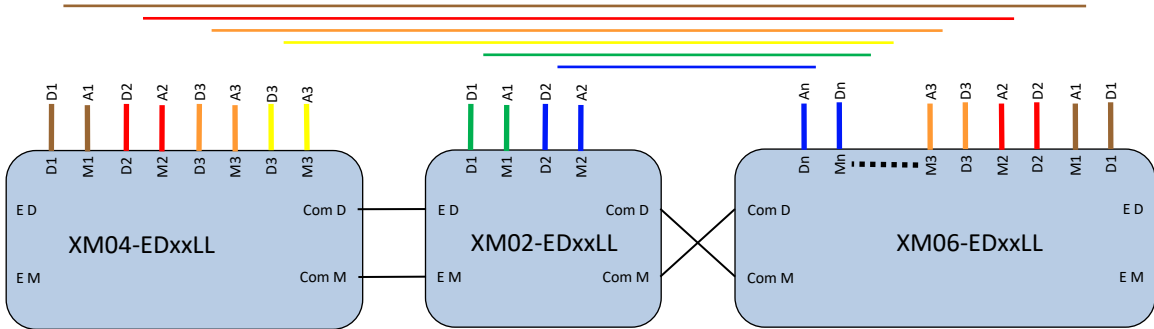


Features

- Optimized for dual fiber applications
- Simplified component interconnection system using standard dual patch cords eliminates most interconnection errors
- High number of connections over fiber pair. Limited only by system power budget.
- Very low inter-channel attenuation ripple
- Modular design enables later expansion without interrupting established links
- Lower attenuation models available on request (for specific channel configurations)
- 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:

DWDM dual fiber is a series of passive optical components optimized for use in dual fiber DWDM transmission systems. All standard ITU C band 100GHz filters from CH 17 to Ch 60 are usually on stock. Any channel combination can be implemented. Channel combinations with at least 4 sequential channels are available also as low attenuation models on request. Number of bidirectional channels concurrently transferred over standard single mode fiber G.652 is limited only by overall system power budget.

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 uses a same wavelength on both fibers, each transferring data in one direction. Standard components that are typically available from stock provide 2, 4 and 6 standard consecutive CWDM channels packed in 1U LGX box or 8 to 12 channels in 2U LGX box or 1U rack mountable enclosure.

Filter construction is such that it balances the attenuation on all used wavelength, so that very little attenuation ripple between channels is present (typ. <0.3dB). In custom versions any combination of wavelengths is possible. In addition to standard DWDM filters, wideband filters that support concurrent transmission of (existing) non DWDM optical signals or multi channel DWDM signals are also available. See more about these versions in separate document "*WDM components for mobile backhaul applications*". Additional 1625nm or 1650nm test channel that enables OTDR testing of optical line while it is being used for data transmission is also available.

Terminal connections in standard products are designed so that standard dual LC SM patch cords can be used to connect to standard transponder equipment (i.e. SFP).

Devices are installed in standard LGX module that snaps into 1U or 2U 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 information

XMnn-EDxxbL	
nn	number of add/drop channels
xx	start channel number
b	type of enclosure (L – LGX, R – 1U rack mountable box)
XM02-EDxxLL	2 wavelengths dual fiber OADM, 1U LGX box
XM03-EDxxLL	3 wavelengths dual fiber OADM, 1U LGX box
XM04-EDxxLL	4 wavelengths dual fiber OADM, 1U LGX box
XM08-EDxxLL	8 wavelengths dual fiber OADM, 1U LGX box
XM08-EDxxRL	8 wavelengths dual fiber OADM in 1U rack mountable box

If wavelengths are all sequential, marking “**xx**” is replaced by channel number of lowest channel. If wavelengths are not sequential **xx** is replaced with two character index marking to description of list of channels specified in a separate note or document.

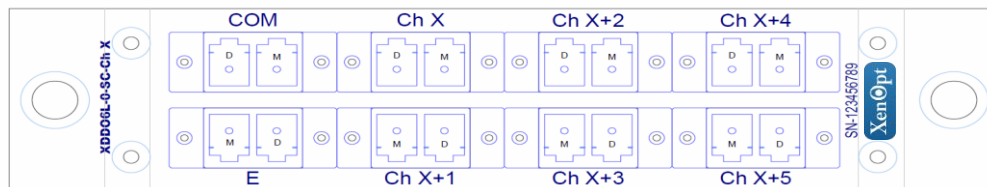
Any combination of standard DWDM (ITU-T G.694.2) wavelengths combinations can be ordered with delivery time of up to 6 weeks (4 weeks typical) for standard DWDM channels and up to 8 weeks for combinations with custom wideband filters.

Here are some examples of typical devices:

XM08-ED20RL	8 wavelengths, ITU channel 20 to 27, 100GHz in 1U rack mount box
XM06-ED17LL	6 wavelengths, ITU channel 17 to 22, 100GHz in 1U LGX box
XM04-ED21LL	4 wavelengths, ITU channel 21 to 24, 100GHz in 1U LGX box
XM04-ED32LL	4 wavelengths, ITU channel 32 to 35, 100GHz in 1U LGX box
XM02-ED33LL	2 wavelengths, ITU channels 33 & 34, 100GHz in 1U LGX box
XM02-ED40LL	2 wavelengths, ITU channels 40 & 41, 100GHz in 1U LGX box
XM02-ED50LL	2 wavelengths, ITU channels 50 & 51 100GHz in 1U LGX box
XM02-ED51LL	2 wavelengths, ITU channels 51 & 51, 100GHz in 1U LGX box
XM02-ED55LL	2 wavelengths, ITU channels 55 & 56, 100GHz in 1U LGX box
XM08-EDxxLL	8 wavelengths, ITU channels 17 & 60, 100GHz in 1U LGX box
XM020-EDxxLL	20 wavelengths, ITU channels 17 & 60, 100GHz in 1U LGX box

*Standard numbers for filters with 8 or more channels must be sequential

Typical connections layouts:



Technical Specifications

Parameters	Dual fiber 100GHz thin film DWDM OADM							Unit
	1 A/D	2 A/D	3 A/D	4 A/D	6 A/D	8 A/D	10 A/D	
Wavelength	ITU G.671 100G C20~C60							nm
Channel Spacing	100							GHz
Channel Passband	$L_c \pm 0.11$ (min)							nm
Passband Ripple	≤ 0.45							dB
Com to E band	C-Band except A/D channels							nm
Insertion Loss - Com to A/D	< 1	< 1.9	< 2.4	< 2.9	< 3.8	< 4.8	< 5.7	dB
Insertion Loss - Com to E	< 0.9	< 1.5	< 2	< 2.5	< 3.4	< 4.4	< 5.3	dB
Com to E for A/D signals	> 13.2	> 13.6	> 14.1	> 14.6	> 15.5	> 16.5	> 17.4	dB
Isolation adjacent channel	≥ 24							dB
Isolation non adjacent channel	≥ 40							dB
Insertion Loss Temperature Sensitivity	≤ 0.01							dB/°C
Polarization Dependent Loss	≤ 0.25							dB
Polarization Mode Dispersion	≤ 0.15							ps
Return Loss	≥ 50							dB
Directivity	≥ 50							dB
Maximum Power Handling	≥ 300							mW
Operating Temperature	-5 to 70							°C
Storage Temperature	-40 to 85							°C
Operating Humidity	5~95 non condensing							%
Storage Humidity	5~95 non condensing							%
Termination	LC connector							--
Package Dimension	1U LGX (130 mm x 127mm x30 mm)							--

Notes

1. IL and all PDL within Operating Temperature and with connectors.
2. Components used are complaint to Telecordia GR1209 & GR-1221.

NOTES:

IL and PMD includes connector loss.

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

For accurate order specification please contact Xenopt reseller before placing an order. The content of this document is subject to change without notice. Xenopt does not guarantee errorless or outdated information.

Please specify any compatibility requirements at time of ordering. Standard MSA compatible pluggable components may not work or some function of these components may not be available in devices that require customized compatible devices. Pluggable components compatible with one type of communications equipment may not work in other type of communications equipment.

Important Notice

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by XenOpt before they become applicable to any particular order or contract. In accordance with the XenOpt policy of continuous improvement specifications may change without notice.

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