X4000 8 and 40 channel 100 Gb optical DCI
using DWDM PAM4 pluggables

Features

- Up to 4 Tb of total capacity
- Cost effective from 300 Mb and higher
- 0 to 25 km span range as appliance
- With 100 Gb PAM-4 QSFP28 pluggable in client equipment
- Two standard versions available with 8 and 40 channels
- 100 Gb/s over 2 wavelengths within each 100 GHz channel
- 56 Gb/s on a single wavelength on 50 GHz DWDM grid
- System guarantees High OSNR required to use PAM4 pluggables
- Includes optical amplification and dispersion compensation
- Management with web, ssh and SDN ready YANG and REST API
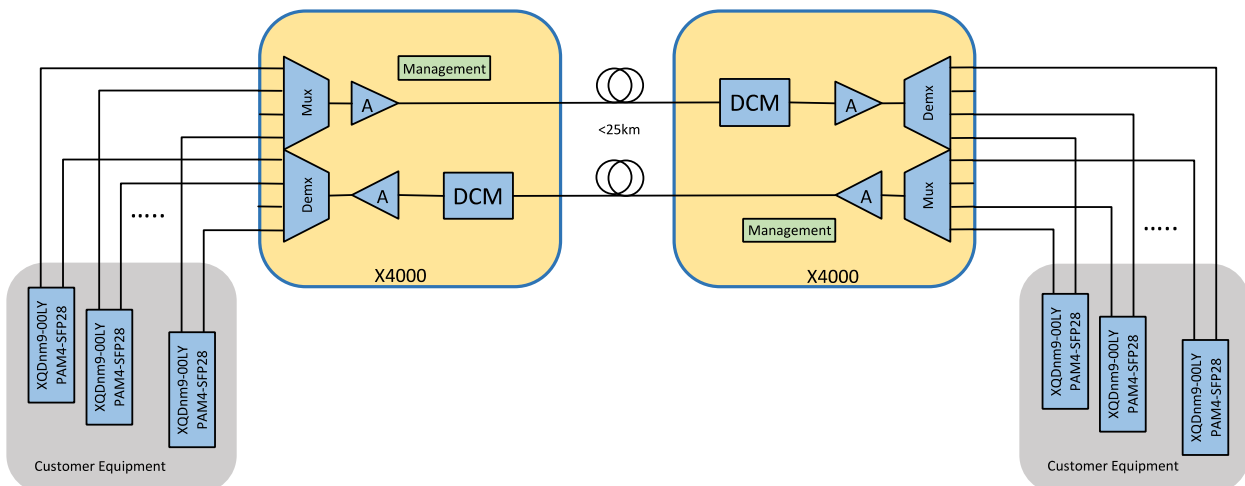- Appliances in 1RU height, 19" footprint

General

X4000 series consists of two optical **Data center Interconnect** (DCI) devices that are available as cost effective and compact appliance for short range connections of up to 25 km. These appliances are built in 1U housing that integrates all components needed to assure communication between low cost XenOpt XQDnm9-00LY series 100Gb PAM4 QSFP28 pluggable modules over single fiber pair. Appliance X4000-8 can support up to 8 channels and X4000-40 can support up to 40 channels that each can pass 100 Gb on two 50 GHz wavelengths within each standard ITU 100 GHz channel. Total system capacity is up to 4 Tb. Such solutions are typically more cost effective than alternative 100 Gb solutions (i.e. DCO) when more than 2x 100 Gb connections are needed. Standard versions of X4000-8 work on ITU channels 35 to 42. Special versions of X4000-8 including versions that operate on single fiber can be built on request. Applications that require connection spans up to 80 km using PAM4 transceivers can be accommodated by custom system design solutions that are available on request.

Specifications

Parameter		Min	Max	Unit
Channel range	X4000-8[1]	193.5	194.2	THz
		35	42	ITU Ch 100 GHz
	X4000-40	192.0	195.9	THz
		20	59	ITU Ch 100 GHz
Wavelength range	X4000-8	1530.334	1561.419	Nm
	X4000-40	1543.7	1549.3	Nm
Number 100GHz channels	X4000-8	1	8	-
	X4000-40	1	40	-
Channel Spacing		100		GHz
Wavelengths per channel		2		-
Wavelengths spacing		50		GHz
Supported fiber type		G.652		
Supported Transceiver		XenOpt XQDxm9-00LY		
Modulation		56G/s PAM-4 per wavelength		
Input Power Range per channel		-8	-5	dBm
Input Power Range per wavelength		-11	-8	dBm
Optical output power safety margin per wavelength			3	dBm
Link loss		1	10	dB
CD compensation		0	500	ps/nm
OSNR at Rx per wavelength (0.1nm RB)		33	-	dB
Output power to Rx port per channel		1	9	dBm
Output power to Rx port per wavelength		-2	6	dBm

Note1: For standard version - other channel ranges available on request

Management

Monitoring and configuration of these devices can be done through network interface using web gui, ssh, snmp and syslog. NETCONF and RESTCONF based APIs are also available for automated management. Following functions are available:

Functions	Set gain point of Booster-amp
	Set gain point of Pre-amp
	Soft reset
	Hard reset
	In/Out of Service
	READ: monitors

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[1] For standard version - other channel ranges available on request

Monitors	Booster input power
	Booster output power
	Pre-amplifier input power
	Pre-amplifier output power
Alarms	Pump temperature alarm
	Case temperature alarm
	Loss of input signal alarm
	Output power alarm

Environmental and Power specification

Parameter	Min	Max	Unit
Operating Case Temperature Range	0	55	°C
Air cooling	Front to back		
Storage Temperature Range	-40	+85	°C
Operating Humidity[2]	+5	+95	% RH
Power Supply Line Voltage	110	230	Vac
Power Supply Current		2	A

Mechanical

Parameter	
Height	1 RU
Width	48.26 cm, 19 in
Depth	40.65 cm, 16 in
Channel optical connectors – front mount	Quad LC 4-off
Span optical connectors – front mount	Dual LC – shuttered 1-off
DCF optical connectors – front mount	Quad LC – shuttered 1-off
Comms port – front mount	RJ45; 1-off
Comms port 2 – front mount	RJ11; 1-off
Status LED	ON: green, Alarm: red, OFF: clear
Power supply connector – rear mount	IEC C320-C14
Cooling	Front to back air flow, 3x fans

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[2] Non-condensing

Ordering information[1]

PN	No Channels	ITU Channels	Reach[2]
X4000-8[1]	8	35 - 42	25 km
X4000-40	40	20 - 59	25 km
Additional components:			
XQDnm9-00LY	100Gb PAM4 QSFP28 pluggable module		

Notes:

1 Selected other channel groups are available on request.

2 For reach 80 km please contact XenOpt representative.

Important Notice

Performance figures, data and any illustrative material provided in this data sheet contain typical values and must be specifically confirmed in writing by XenOpt before they become applicable to any particular order or contract. Specifications may change without notice

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