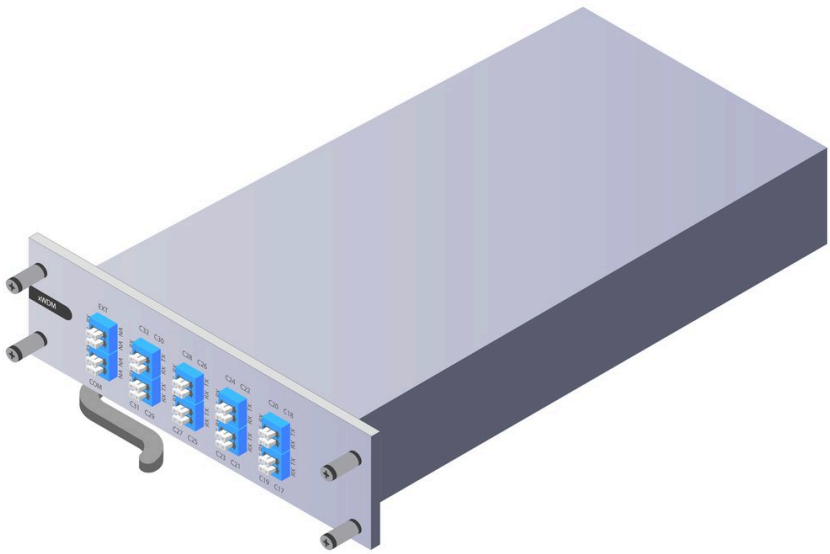
nex·gen

OTN SYSTEMS WDM PLATFORMS

Mux/Demux Card for WDM Chassis

The Mux/Demux Card combines multiple optical channels onto a single fibre and separates them back out again, using thin-film filter technology. It is available in CWDM or DWDM (C-band, 100GHz) versions, with low insertion loss and high channel isolation across the full range. The same design supports single-fibre or dual-fibre line-side connections, and an optional combined power monitoring tap for centralised visibility of the multiplexed signal.



HIGHLIGHTS

2 to 18 channels on one card

The same board design scales from 2 up to 18 optical channels, occupying 1 slot for 2/4/8 channels or 2 slots for 16/18 channels.

CWDM and DWDM versions

Available for CWDM (1271–1611nm) or DWDM C-band (100GHz spacing, ITU-T grid centre wavelengths).

Low insertion loss

From ≤1.2dB on the 2-channel version to ≤5.0dB on the 18-channel version, with ≤0.5dB flatness across channels.

High channel isolation

≥30dB adjacent-channel and ≥40dB non-adjacent-channel isolation, keeping crosstalk low as channel count increases.

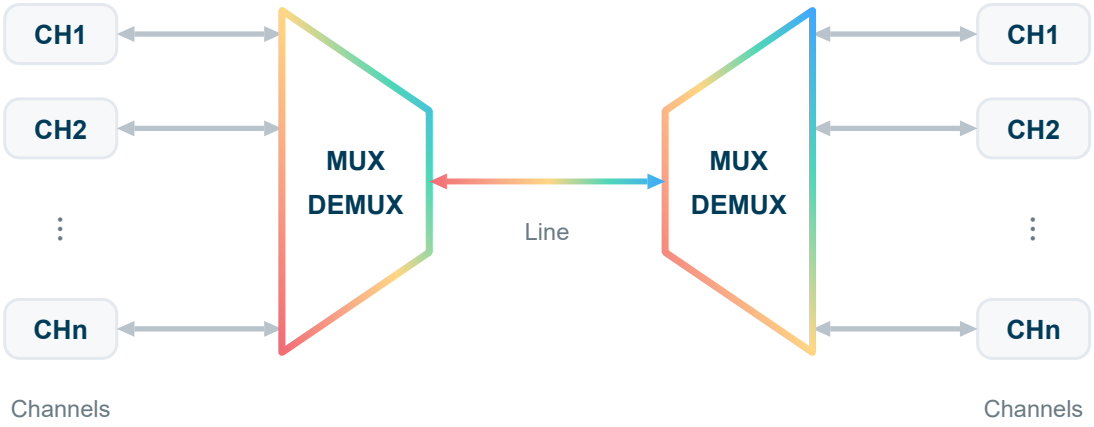
Single or dual-fibre line side

Supports both single-fibre and dual-fibre application scenarios on the combined line-side interface.

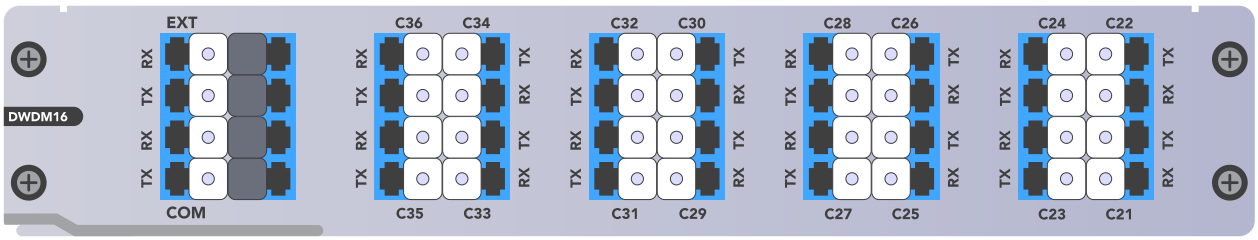
Optional combined power monitoring

An optional monitoring tap reports combined signal power on the line side for centralised network management.

FUNCTIONAL STRUCTURE



FRONT PANEL



FORMAT

CARD FOR WDM CHASSIS 1 SLOT

CARD FOR WDM CHASSIS 2 SLOTS

SPECIFICATIONS

Optical					
Operating Wavelength Range	CWDM: 1271–1611nm · DWDM: C-band (100GHz)				
Channel Centre Wavelength	ITU-T Grid				
Number of Fibres on Line Side	Supports single-fibre or dual-fibre line-side application scenarios				
Flatness	≤0.5dB				
Adjacent Channel Isolation	≥30dB				
Non-Adjacent Channel Isolation	≥40dB				
Return Loss	≥45dB				
Directionality	≥45dB				
Channel Count Configuration				Other channel counts available on request	
Number of Optical Channels	2	4	8	16	18
Channel Insertion Loss	≤1.2dB	≤1.8dB	≤2.6dB	≤4.5dB	≤5.0dB
Number of Slots Occupied	1	1	1	2	2
Valid Start Channel, CWDM (ITU-T G.694.2, CH27–CH61 Step 2)	CH27–CH59	CH27–CH55	CH27–CH47	CH27–CH31, or fixed 16WP plan	CH27 (whole band)

Valid Start Channel, DWDM (ITU-T G.694.1, 100GHz Grid, CH21–CH61)	CH21–CH60	CH21–CH58	CH21–CH54	CH21–CH46	CH21–CH44
	Slots given for the OTN WDM chassis range. CWDM channel numbers step by 2 (e.g. start CH27, count 4 → CH27,29,31,33); DWDM channel numbers step by 1 (e.g. start CH21, count 4 → CH21,22,23,24), see the CWDM and DWDM Channel Grid Reference tables below for wavelength/frequency per channel. The CWDM-only "16WP" plan is a {Channels} value with {Start} fixed at CH27: all 18 channels except CH39 (1391nm) and CH41 (1411nm), the two channels most affected by the fibre water-peak absorption band.				
Management & Mechanical					
Optical Interface	LC/UPC				
Power Monitoring	Combined signal power monitoring (optional)				
Maximum Power Consumption	3W				

CWDM CHANNEL GRID REFERENCE

CHANNEL	WAVELENGTH
CH27	1271nm
CH29	1291nm
CH31	1311nm
CH33	1331nm
CH35	1351nm
CH37	1371nm
CH39	1391nm
CH41	1411nm
CH43	1431nm
CH45	1451nm
CH47	1471nm
CH49	1491nm
CH51	1511nm
CH53	1531nm
CH55	1551nm
CH57	1571nm
CH59	1591nm
CH61	1611nm

DWDM CHANNEL GRID REFERENCE

ITU-T G.694.1, 100GHz grid, C-band.

CHANNEL	FREQUENCY	WAVELENGTH
CH21	196.1THz	1528.77nm
CH22	196.0THz	1529.55nm
CH23	195.9THz	1530.33nm
CH24	195.8THz	1531.12nm
CH25	195.7THz	1531.9nm
CH26	195.6THz	1532.68nm
CH27	195.5THz	1533.47nm
CH28	195.4THz	1534.25nm
CH29	195.3THz	1535.04nm
CH30	195.2THz	1535.82nm
CH31	195.1THz	1536.61nm
CH32	195.0THz	1537.4nm
CH33	194.9THz	1538.19nm
CH34	194.8THz	1538.98nm
CH35	194.7THz	1539.77nm
CH36	194.6THz	1540.56nm
CH37	194.5THz	1541.35nm
CH38	194.4THz	1542.14nm
CH39	194.3THz	1542.94nm
CH40	194.2THz	1543.73nm
CH41	194.1THz	1544.53nm
CH42	194.0THz	1545.32nm
CH43	193.9THz	1546.12nm
CH44	193.8THz	1546.92nm

CHANNEL	FREQUENCY	WAVELENGTH
CH45	193.7THz	1547.72nm
CH46	193.6THz	1548.51nm
CH47	193.5THz	1549.32nm
CH48	193.4THz	1550.12nm
CH49	193.3THz	1550.92nm
CH50	193.2THz	1551.72nm
CH51	193.1THz	1552.52nm
CH52	193.0THz	1553.33nm
CH53	192.9THz	1554.13nm
CH54	192.8THz	1554.94nm
CH55	192.7THz	1555.75nm
CH56	192.6THz	1556.55nm
CH57	192.5THz	1557.36nm
CH58	192.4THz	1558.17nm
CH59	192.3THz	1558.98nm
CH60	192.2THz	1559.79nm
CH61	192.1THz	1560.61nm

ORDERING INFORMATION

NAME	Mux/Demux Card for WDM Chassis
DESCRIPTION	MDU Mux/Demux Card. Passive CWDM or DWDM multiplexer/demultiplexer using thin-film filter technology, with low insertion loss and high channel isolation. Supports single-fibre or dual-fibre line-side connections, with optional combined power monitoring.
PART NUMBER	WDM-**{xWDM}**-**{Start}**-**{Channels}**[-**M**]-**{Slots}**S

{xWDM}	CMD (CWDM Mux/Demux) · DMD (DWDM Mux/Demux), required
{Start}	First channel number, CMD (CWDM): CH27–CH61, step 2 · DMD (DWDM): CH21–CH61, step 1, exact range depends on {Channels}, see Channel Count Configuration and Grid Reference tables above · for CMD only, fixed at CH27 when {Channels} is "16WP", required
{Channels}	2 · 4 · 8 · 16 · 16WP (CMD only, fixed water-peak-optimised plan) · 18 (number of channels) *(other channel counts available on request)*, required
[-M]	omitted = without combined power monitoring · present = with combined power monitoring
{Slots}S	automatically 1S for 2/4/8-channel configurations · 2S for 16/18-channel configurations, not independently selectable