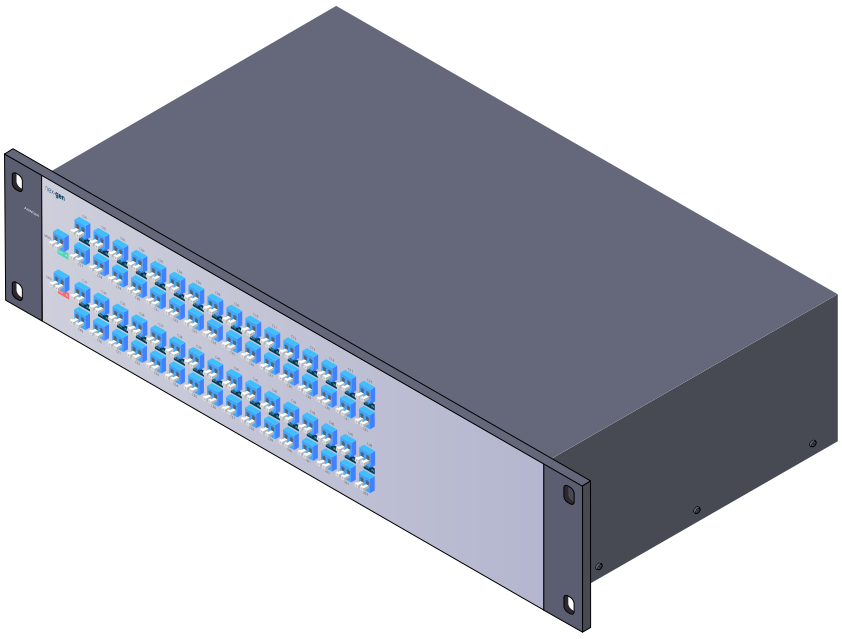
AAWG 64-Channel 75GHz Mux/Demux Unit

The AAWG (Athermal Array Waveguide Grating) is a passive 64-channel multiplexing and demultiplexing unit for C-band DWDM systems, on the 75GHz grid. It multiplexes 64 individually-wavelengthed signals onto a single fibre, or separates a combined DWDM signal back into its 64 channels. Built on silicon-substrate waveguide grating technology with an athermal package for precise, temperature-stable channel coupling, low insertion loss and high channel isolation, suited to 64-wave × 400Gbps high-capacity DWDM systems.



HIGHLIGHTS

64 fixed channels, 75GHz spacing

Covers 191.3625–196.0875 THz (CH01 to CH64).

Athermal AWG technology

Silicon-substrate waveguide grating with athermal packaging for stable performance without active temperature control.

High-capacity DWDM

Suited to 64-wave × 400Gbps systems; channel insertion loss ≤6.0dB, non-adjacent channel isolation ≥30dB.

Combined-port monitoring

LINE port optical power monitoring, 1% splitting ratio (21–23dB).

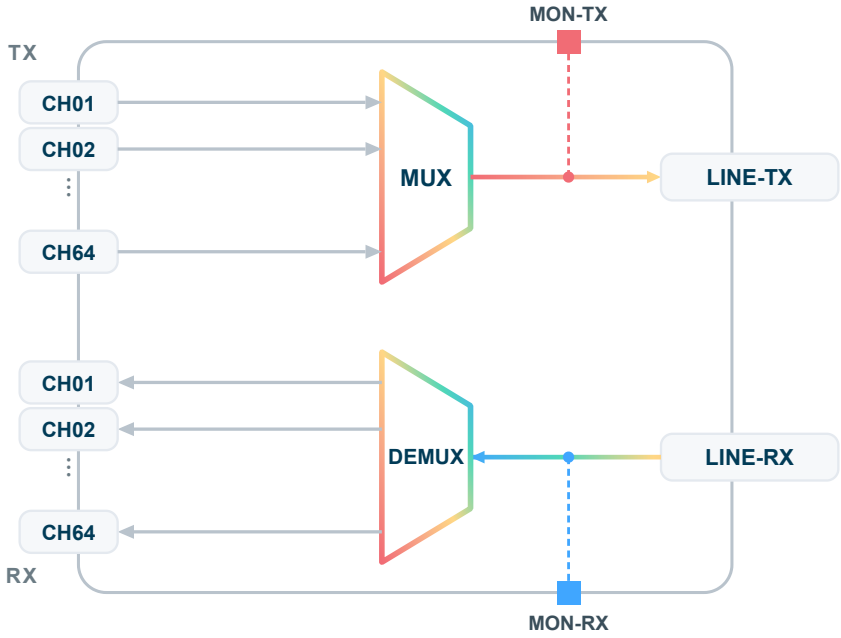
Chassis-managed via RJ-45

RJ-45 management interface to the DCI-OTN-8S-2U rear interface board; reports SN/model/PN and in-place/out-of-place status to the network management system (dumb resource management).

Compact 2U rack unit

88mm (H) × 442mm (W) × 220mm (D); standalone rack-mount unit, not a chassis card.

FUNCTIONAL STRUCTURE



FORMAT

2U

SPECIFICATIONS

Function	Multiplexing and demultiplexing of 64 DWDM optical signals in C-band
Dimensions (H × W × D)	2U: 88mm × 442mm × 220mm
Spectral Type	Flat top
Frequency Range	191.3625–196.0875 THz
Channel Spacing	75GHz
Number of Optical Channels	64
ITU Passband Frequency	±31.5GHz
Wavelength Accuracy	≤0.05nm
Channel Insertion Loss	≤6.0dB
Insertion Loss Uniformity	≤1.5dB
-0.5dB Bandwidth	≥22.5GHz
-3dB Bandwidth	≥36GHz
Adjacent Channel Isolation	≥13dB
Non-Adjacent Channel Isolation	≥30dB
Total Crosstalk	≥11dB
Return Loss	≥35dB
Polarization Dependent Loss	≤1.2dB
Polarization Mode Dispersion	≤1ps
Dispersion	±33ps
Operating Temperature	-5 to +65°C
Storage Temperature	-40 to +85°C
MON Port	21–23dB splitting ratio (1%)

Management	RJ-45 interface to the DCI-OTN-8S-2U rear interface board; reports SN/model/PN and in-place/out-of-place status via the network management system (dumb resource management)

Channel List (CH01–CH64, 75GHz Grid)					
Ch.	**Freq. (THz)**	**λ (nm)**	**Ch.**	**Freq. (THz)**	**λ (nm)**
CH01	196.0875	1528.87	CH33	193.6875	1547.82
CH02	196.0125	1529.46	CH34	193.6125	1548.41
CH03	195.9375	1530.04	CH35	193.5375	1549.01
CH04	195.8625	1530.63	CH36	193.4625	1549.62
CH05	195.7875	1531.21	CH37	193.3875	1550.22
CH06	195.7125	1531.8	CH38	193.3125	1550.82
CH07	195.6375	1532.39	CH39	193.2375	1551.42
CH08	195.5625	1532.98	CH40	193.1625	1552.02
CH09	195.4875	1533.56	CH41	193.0875	1552.62
CH10	195.4125	1534.15	CH42	193.0125	1553.23
CH11	195.3375	1534.74	CH43	192.9375	1553.83
CH12	195.2625	1535.33	CH44	192.8625	1554.44
CH13	195.1875	1535.92	CH45	192.7875	1555.04
CH14	195.1125	1536.51	CH46	192.7125	1555.65
CH15	195.0375	1537.1	CH47	192.6375	1556.25
CH16	194.9625	1537.69	CH48	192.5625	1556.86
CH17	194.8875	1538.28	CH49	192.4875	1557.46
CH18	194.8125	1538.88	CH50	192.4125	1558.07
CH19	194.7375	1539.47	CH51	192.3375	1558.68
CH20	194.6625	1540.06	CH52	192.2625	1559.29
CH21	194.5875	1540.66	CH53	192.1875	1559.9
CH22	194.5125	1541.25	CH54	192.1125	1560.5
CH23	194.4375	1541.84	CH55	192.0375	1561.11
CH24	194.3625	1542.44	CH56	191.9625	1561.72
CH25	194.2875	1543.04	CH57	191.8875	1562.33
CH26	194.2125	1543.63	CH58	191.8125	1562.95
CH27	194.1375	1544.23	CH59	191.7375	1563.56
CH28	194.0625	1544.82	CH60	191.6625	1564.17
CH29	193.9875	1545.42	CH61	191.5875	1564.78
CH30	193.9125	1546.02	CH62	191.5125	1565.39
CH31	193.8375	1546.62	CH63	191.4375	1566.01
CH32	193.7625	1547.22	CH64	191.3625	1566.62

ORDERING INFORMATION

NAME	AAWG (Athermal Array Waveguide Grating) 64-Channel 75GHz Mux/Demux Unit
DESCRIPTION	AAWG (Athermal Array Waveguide Grating) passive 64-channel DWDM multiplexer/demultiplexer, 2U rack unit. Silicon-substrate AWG technology, athermal packaging, 75GHz spacing, 191.3625-196.0875THz (CH01-CH64), flat-top spectral response, suited to 64-wave x 400Gbps systems; channel insertion loss ≤6.0dB, non-adjacent isolation ≥30dB; LINE port power monitoring; RJ-45 management to the DCI-OTN-8S-2U rear interface board.
PART NUMBER	**DCI-AAWG-75-F-64-2U**

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