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OTN SYSTEMS DCI PLATFORMS

AAWG 48-Channel 100GHz MuxDemux Rack

The AAWG (Athermal Array Waveguide Grating) is a passive 48-channel multiplexing and demultiplexing rack for C-band DWDM systems, on the ITU 100GHz grid. It multiplexes 48 individually-wavelengthed signals onto a single fibre, or separates a combined DWDM signal back into its 48 channels. Built on silicon-substrate waveguide grating (AWG) technology with an athermal package for precise, temperature-stable channel coupling, low insertion loss and high channel isolation.



HIGHLIGHTS

48 fixed channels, 100GHz spacing

Covers the full C-band from C14 to C61 (191.40–196.10 THz), flat-top spectral response.

Athermal AWG technology

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

Low loss, high isolation

Channel insertion loss ≤5.5dB, adjacent channel isolation ≥25dB, non-adjacent ≥30dB.

Combined-port monitoring

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

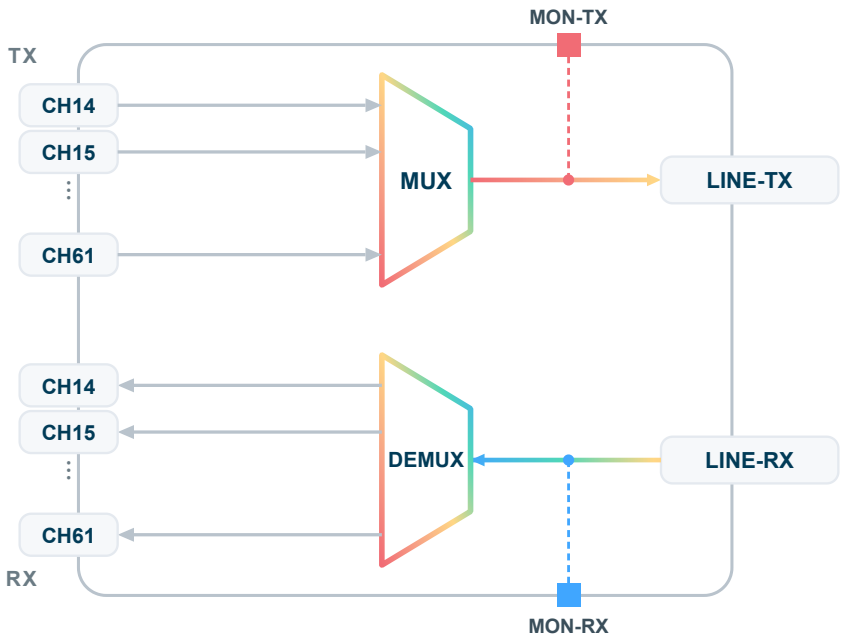
Chassis-managed via RJ-45

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 1U rack unit

44mm (H) × 442mm (W) × 220mm (D); standalone rack-mount unit, not a chassis card.

FUNCTIONAL STRUCTURE



FORMAT

1U

SPECIFICATIONS

Function	Multiplexing and demultiplexing of 48 DWDM optical signals in C-band
Dimensions (H × W × D)	1U: 44mm × 442mm × 220mm
Spectral Type	Flat top
Channel Spacing	100GHz
Number of Optical Channels	48
ITU Passband Frequency	±12.5GHz
Wavelength Accuracy	≤0.04nm
Channel Insertion Loss	≤5.5dB
Insertion Loss Uniformity	≤1.5dB
1dB Bandwidth	≥0.38nm
3dB Bandwidth	≥0.56nm
20dB Bandwidth	≤1.2nm
Adjacent Channel Isolation	≥25dB
Non-Adjacent Channel Isolation	≥30dB
Total Crosstalk	≥22dB
Return Loss	≥40dB
Polarization Dependent Loss	≤0.5dB
Polarization Mode Dispersion	≤0.5ps
Dispersion	±20ps
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 (CH14–CH61, 100GHz Grid)

Ch.	Freq. (THz)	λ (nm)	Ch.	Freq. (THz)	λ (nm)
CH61	196.10	1528.77	CH37	193.70	1547.72
CH60	196.00	1529.55	CH36	193.60	1548.52
CH59	195.90	1530.33	CH35	193.50	1549.32
CH58	195.80	1531.12	CH34	193.40	1550.12
CH57	195.70	1531.90	CH33	193.30	1550.92
CH56	195.60	1532.68	CH32	193.20	1551.72
CH55	195.50	1533.47	CH31	193.10	1552.52
CH54	195.40	1534.25	CH30	193.00	1553.33
CH53	195.30	1535.04	CH29	192.90	1554.13
CH52	195.20	1535.82	CH28	192.80	1554.94
CH51	195.10	1536.61	CH27	192.70	1555.75
CH50	195.00	1537.40	CH26	192.60	1556.56
CH49	194.90	1538.19	CH25	192.50	1557.36
CH48	194.80	1538.98	CH24	192.40	1558.17
CH47	194.70	1539.77	CH23	192.30	1558.98
CH46	194.60	1540.56	CH22	192.20	1559.79
CH45	194.50	1541.35	CH21	192.10	1560.61
CH44	194.40	1542.14	CH20	192.00	1561.42
CH43	194.30	1542.94	CH19	191.90	1562.23
CH42	194.20	1543.73	CH18	191.80	1563.05
CH41	194.10	1544.53	CH17	191.70	1563.86
CH40	194.00	1545.32	CH16	191.60	1564.68
CH39	193.90	1546.12	CH15	191.50	1565.50
CH38	193.80	1546.92	CH14	191.40	1566.31

ORDERING INFORMATION

NAME	AAWG (Athermal Array Waveguide Grating) 48-Channel 100GHz MuxDemux Rack
DESCRIPTION	AAWG (Athermal Array Waveguide Grating) passive 48-channel DWDM multiplexer/demultiplexer, 1U rack unit. Silicon-substrate AWG technology, athermal packaging, 100GHz ITU grid, C14-C61 (191.40-196.10THz), flat-top spectral response; channel insertion loss ≤5.5dB, adjacent isolation ≥25dB; LINE port power monitoring; RJ-45 management to the DCI-OTN-8S-2U rear interface board.
PART NUMBER	**DCI-AAWG-100-F-48-1U**

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