DWDM-16-1U

DWDM MUX DEMUX

16ch, Dual Fiber, 1310nm/MON/EXP, LC/UPC, 1U Rack



Overview

The 16 channel DWDM mux/demux is the configuration most metro networks settle on: one fiber pair, sixteen services, no regeneration in between. Channels sit on C45 to C60 of the standard 100 GHz ITU grid, so any fixed or tunable DWDM optic can light them. As a passive DWDM module, it carries no power feed, no firmware and no cooling — nothing to fail.

Inside, the filter is TFF — thin-film — and sixteen channels is where that choice pays off: cascaded thin-film stages keep channel separation sharp and isolation high, with a passband that stays put across temperature. Channel insertion loss holds at ≤ 4.0 dB and link loss at ≤ 4.8 dB, leaving budget for metro and regional spans without amplification.

Three auxiliary ports let this 16ch DWDM mux/demux fit a network that already exists rather than a greenfield site: a 1310 nm window for legacy grey optics, a monitor tap for link supervision without interrupting traffic, and an expansion port that adds a second band without leasing more fiber.

Features

- 16-channel DWDM, C45–C60 on the 100 GHz grid
- Thin-film DWDM, fully passive — no power, no software, nothing to poll
- Insertion loss ≤4.0 dB per port; link loss ≤4.8 dB
- 1310 nm port so legacy 1G to 100G optics keep working
- Monitor and expansion ports for supervision and future capacity
- Dual fiber, duplex LC/UPC, 19-inch 1U rack

Applications

- CATV, broadcast and RFoG headends sharing one fiber
- Data centre interconnect: sixteen lambdas on a single pair
- Metro and regional transport where fiber is scarce
- CWDM-to-DWDM migration on rings that have run out of channels

Technical Specifications

Parameter	Specification
Channel Count	16 (C45–C60)
Wavelength Range	1529.55 – 1541.35 nm
Channel Spacing	100 GHz (≈0.8 nm), ITU-T G.694.1
Channel Passband	±0.11 nm
Filter Technology	TFF — thin-film filter
Insertion Loss, channel ports 1,2	≤ 4.0 dB
Link Loss 1,2	≤ 4.8 dB
1310 nm Pass Band	1260 – 1360 nm
Insertion Loss, 1310 nm port 1,2	≤ 0.8 dB
Insertion Loss, MON port 3	≤ 26 dB (1 % tap)
Center Wavelength Accuracy	±0.05 nm
Return Loss	≥ 45 dB
Directivity	≥ 45 dB
Channel Isolation	Adjacent ≥30 dB / non-adjacent ≥45 dB
Polarization Dependent Loss	≤ 0.3 dB
Polarization Mode Dispersion	≤ 0.1 ps
Operating / Storage Temperature	−40 to +85 °C
Connector	LC/UPC duplex (other types on request)
Dimensions (H × W × D)	44 × 440 × 230 mm (482 mm with mounting ears)
Net Weight	3.5 kg

Note: Specified with connectors.

Port functions

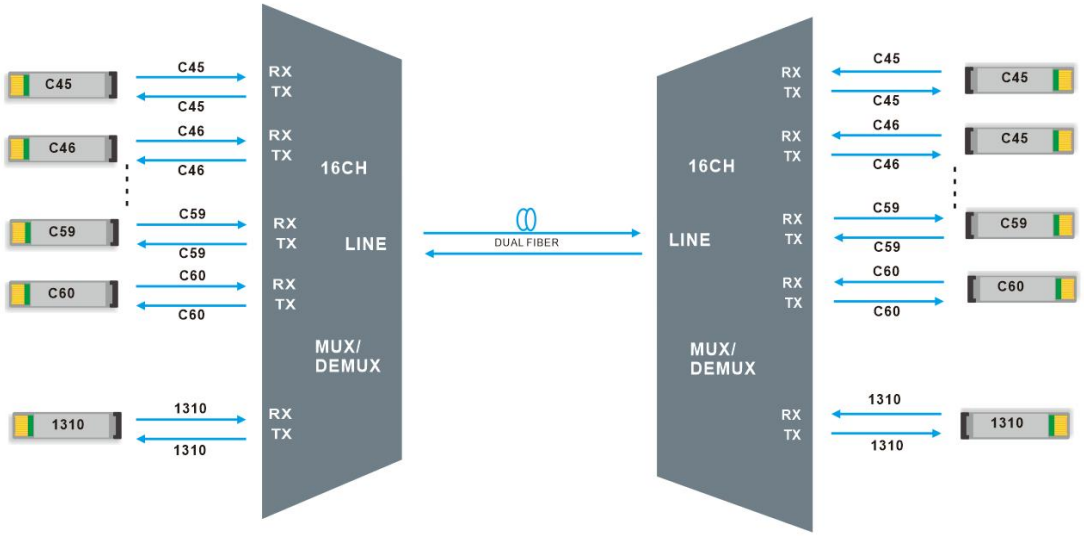
Port	Function
LINE	Trunk port. All 16 DWDM channels, bidirectional, over the paired fiber.
1310	1G LX/SX, 10G LR, 40G LR4/ER4, 100G LR4/ER4/ZR4.
MON	Power monitoring and fault finding, zero traffic interruption.
EXP	Expand with a second DWDM unit (different band) — no new fiber.

Channel Frequencies and Wavelengths

Ch.	Center λ (nm)	Center f (THz)	Ch.	Center λ (nm)	Center f (THz)
C45	1541.35	194.5	C46	1540.56	194.6
C47	1539.77	194.7	C48	1538.98	194.8
C49	1538.19	194.9	C50	1537.40	195.0
C51	1536.61	195.1	C52	1535.82	195.2
C53	1535.04	195.3	C54	1534.25	195.4
C55	1533.47	195.5	C56	1532.68	195.6
C57	1531.90	195.7	C58	1531.12	195.8
C59	1530.33	195.9	C60	1529.55	196.0

Center wavelengths are the ITU-T G.694.1 100 GHz reference values at f = 190.0 + 0.1 × n THz. C45–C60 is the standard build; other start and end channels are available to order.

Line Link



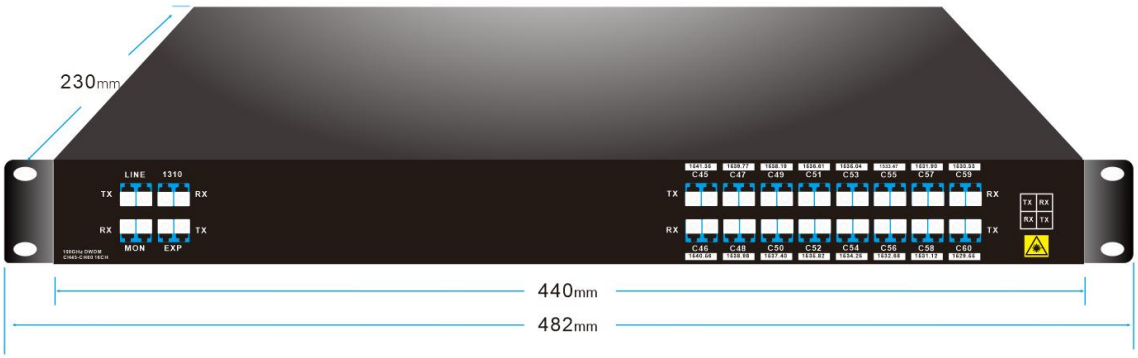
16CH DWDM MUX DEMUX Dual fiber transmission

Front Panel Layout



16CH DWDM MUX DEMUX Dual Fiber

Package Dimensions



19” Inch 1U Rack

Order Information

Product No.	Description
DWDM-16-1U-C4560	DWDM MUX DEMUX, 16CH (C45-C60), with 1310 nm, EXP and monitor ports, dual fiber, LC/UPC, 1U 19-inch rack
DWDM-16-1U-Cxxxx	DWDM MUX DEMUX, 16CH (Cxx-Cxx), with 1310 nm, EXP and monitor ports, dual fiber, LC/UPC, 1U 19-inch rack (Customized Channel)

Customized channel plans, connector types and port configurations are available on request.

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