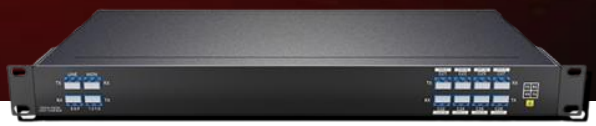
DWDM-8-1U

DWDM MUX DEMUX

8ch, Dual Fiber, 1310nm/MON/EXP, LC/UPC, 1U Rack



Overview

The 8 channel DWDM mux/demux is where most networks enter DWDM: eight wavelengths on one fiber pair, enough to retire a stack of point-to-point links without pulling new cable. Channels sit on C21 to C28 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 eight 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. That leaves the optical budget for the span itself.

Three auxiliary ports let this 8ch 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 channels without leasing more fiber.

Features

- 8-channel DWDM, C21–C28, on the same 100 GHz grid
- 1310 nm bypass keeps existing 1G to 100G grey optics in service
- Channel loss ≤2.4 dB, link loss ≤3.2 dB with connectors included
- Line-side monitor tap, plus an expansion port for a second band
- Passive DWDM mux demux in thin film — no amplifier, no power, no software
- Duplex LC/UPC on a 1U 19-inch chassis, 44 × 440 × 230 mm

Applications

- CWDM-to-DWDM migration that must not strand 1310 nm services
- Metro aggregation nodes feeding the access rings behind them
- CATV and RFoG headends mixing analogue video with data lambdas
- 5G mid-haul between distributed units and the central office

Technical Specifications

Parameter	Specification
Channel Count	8 (C21–C28)
Wavelength Range	1554.94 – 1560.61 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	≤ 2.4 dB
Link Loss	≤ 3.2 dB
1310 nm Pass Band	1260 – 1360 nm
Insertion Loss, 1310 nm port	≤ 0.8 dB
Insertion Loss, MON port 1	≤ 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	3.0 kg

Note: Specified with connectors.

Port functions

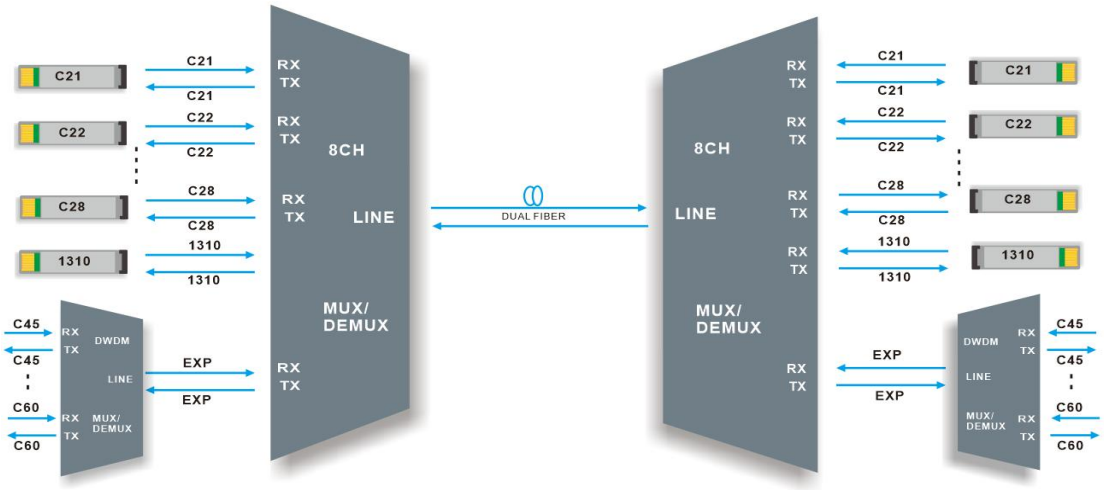
Port	Function
LINE	Trunk port. All 8 DWDM channels, bidirectional, over the paired fiber.
1310	1G LX/SX, 10G LR, 40G LR4/ER4, 100G LR4/ER4/ZR4.
MON	Power monitoring and fault finding, zero traffic interruption.
EXP	Expand with a second DWDM unit (different band) — no new fiber.

Channel Frequencies and Wavelengths

Ch.	Center λ (nm)	Center f (THz)	Ch.	Center λ (nm)	Center f (THz)
C21	1560.61	192.1	C22	1559.79	192.2
C23	1558.98	192.3	C24	1558.17	192.4
C25	1557.36	192.5	C26	1556.55	192.6
C27	1555.75	192.7	C28	1554.94	192.8

Center wavelengths are the ITU-T G.694.1 100 GHz reference values at f = 190.0 + 0.1 × n THz. C21–C28 is the standard build; other eight-channel windows are available to order.

Line Link



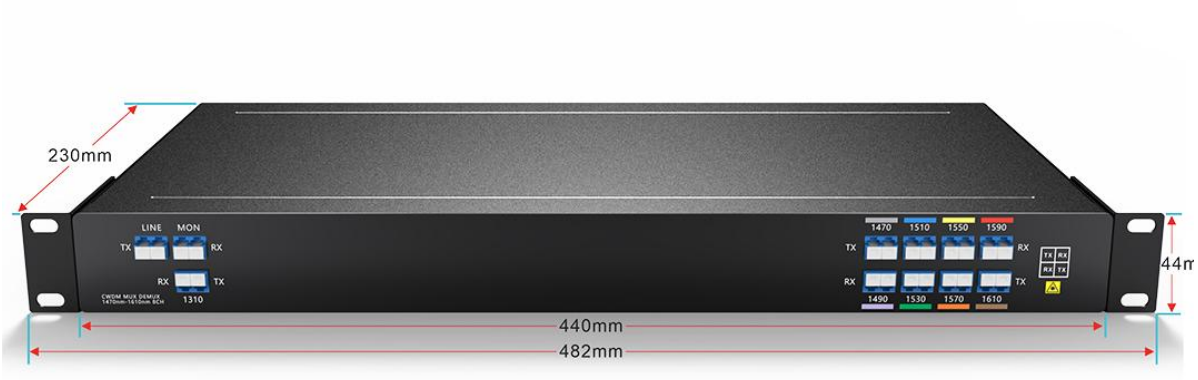
8CH DWDM MUX DEMUX Dual fiber transmission

Front Panel Layout



8CH DWDM MUX DEMUX Dual Fiber

Package Dimensions



19” Inch 1U Rack

Order Information

Product No.	Description
DWDM-8-1U-C2128	DWDM MUX DEMUX, 8CH (C21-C28), with 1310 nm, EXP and monitor ports, dual fiber, LC/UPC, 1U 19-inch rack
DWDM-8-1U-Cxxxx	DWDM MUX DEMUX, 8CH (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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