

8CH Single Fiber C21-C35 DWDM Mux Demux + Expansion Port, Side-A

FMU Plug-in Module, LC/UPC

Data Center & Cloud Computing Infrastructure Solutions



Overview

The 8CH Mux Demux, based on TFF (Thin Film Filter), is a passive DWDM device featuring high density, low loss, and long-haul transmission suitability. It features an expansion port can be used to add additional channels, providing a cost-effective and easily expandable solution. In addition, this unit can be used as either a multiplexer or de-multiplexer (Mux/Demux). It combines 8-channels of DWDM wavelengths into a composite signal and separates the combined DWDM signal into 8-channels individual wavelengths over a single-mode optical fiber. In accordance with the ITU-T G.694.2, it maximizes the capacity of the C-band range. Designed for maximum configuration flexibility, the DWDM Mux Demux can plug directly into the FMU chassis, each module occupying one slot.

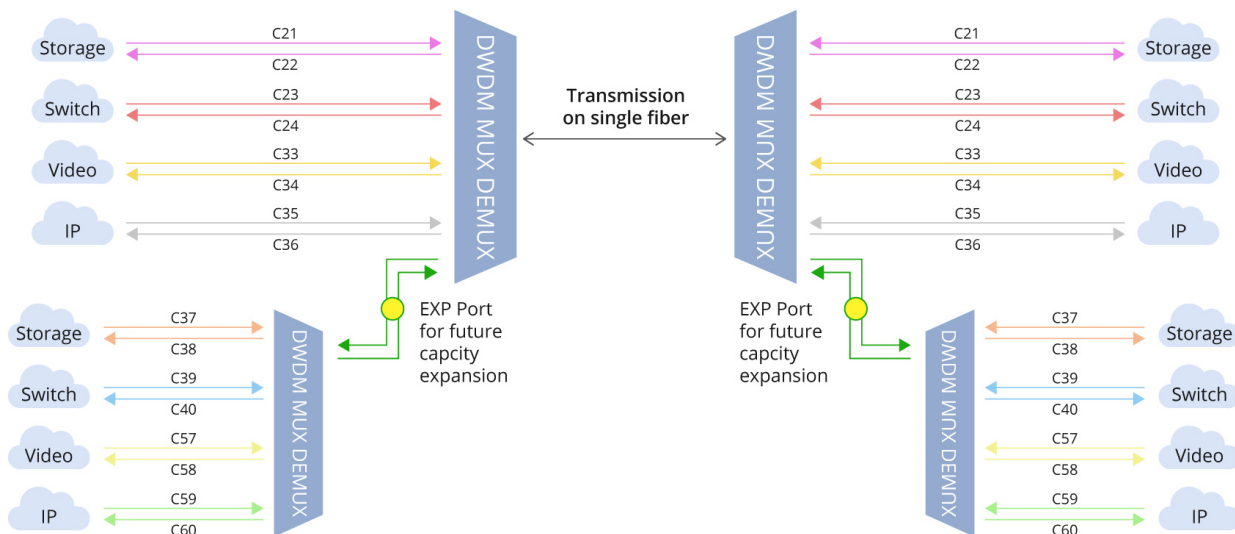
Moreover, because single fiber Mux/Demux is always used in pairs, this device needs to be used in conjunction with the FMU-MD08EB.

It supports 1G/10G/25G Ethernet, SDH/SONET, 16/8/4/2/1G Fibre Channel, FTTx and CATV. When deployed with FS DWDM optical transceivers, OEO, EDFA and OADM modules, the Mux Demux seamlessly enables flexible network architectures ranging from simple point-to-point connections to amplified ring configurations.

Highlights

- Multiplexing of up to 8 Channels on a Single Fiber to Maximize the Use of Existing Fiber
- Compatible with ITU Grid and Interconnects with All Optical Networking Products
- Expansion Port for Adding Additional Channels and Increasing Capacity
- Enables Space-efficient Integration and Hybrid Deployment of CWDM, DWDM and LANWDM within the FMU Chassis
- Passive Transparent Multiplexing at Any Rate, Any Service, Including Ethernet, SDH/SONET, Fibre Channel, FTTx, and CATV
- Suitable for Long-distance Transmission, Including OTN, DCI and WAN Networks
- The Solution can be [Customized](#) per Customer Application Requirements
- Fit into One Slot of the [FMU 2-Slot 1U 19" Rack Chassis](#)

General Specification



Technical Data

Parameter	Value
ITU Channel	8 Channels RX-C21~C35, TX-C22~C36
Operating Wavelength	1549.32nm-1560.61nm
Channel Spacing	100GHz (0.8nm)
Channel Passband	±0.11nm
Insertion Loss	≤ 4.6dB, 4.2dB Typical
EXP Isolation	≤4.6dB
Technology	TFF (Thin Film Filter)
Center Wavelength Accuracy	±0.05nm
Adjacent Channel Isolation	±0.05nm
Non-adjacent Channel Isolation	≥30dB
Polarization Dependent Loss	≤ 0.1ps
Polarization Mode Dispersion	≤ 0.3dB
Passband Ripple	≤ 0.5dB
Directivity	≥ 45dB
Return Loss	≥ 45dB
Max Optical Power	≤ 500mW (27dBm)
Operating Temperature	-40 to 85°C (-40 to 185°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Connector	LC/UPC
Dimensions (H x W x D)	1.73"x8.35"x10.04" (44x212x255mm)
Rack Space	1U ½-width Plug-in Module
Housing	Pluggable Module (Occupies 1 Slot in FMU Chassis)

Notes:

- 1. Specified with connectors and adapters.

High Quality DWDM Transceivers to Build a Passive DWDM System

FS.COM offers DWDM transceiver modules in SFP, SFP+, SFP28, 3G-SDI SFP and XFP formats. Every optics is tested in real switches and fully compatible with Cisco, Juniper, Arista, Brocade, Dell, Extreme, etc.

Transmission distances range from 10-80km, transmission data rate range from 1G-25G speeds, without the use of optical amplifiers.



DWDM-SFP10G-80



DWDM-XFP10G-80



DWDM-Tunable-XFP



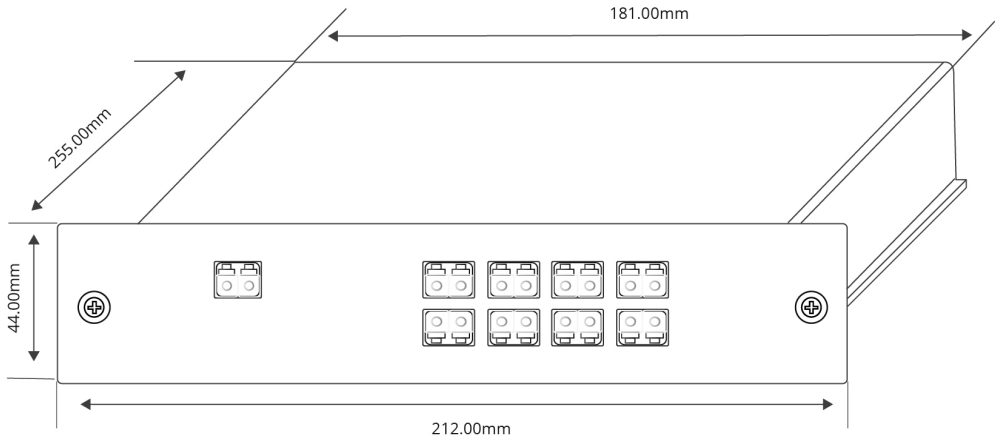
DWDM-Tunable-SFP+



DWDM-SFP1G-ZX

Layout and Dimensions

- Width: 212.00 mm (8.35")
- Height: 44.00 mm (1.73")
- Depth: 255.00 mm (10.04")
- The color of the module is black
- All fonts and labels are printed in black

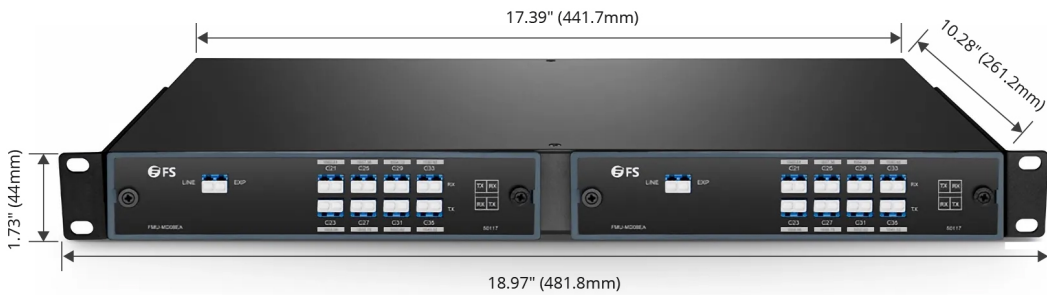


Dimensions

2-slot FMU managed chassis, supports up to 2 DWDM Mux Demux or CWDM Mux Demux modules with different channels in FMU packages

- Width: 18.97" (481.8mm)
- Height: 1.73" (44mm)
- Depth: 10.28" (261.2mm)

Mux Demux plug-in module occupies one slot.



Ordering Information

Mux Demux & OADM

FMU-MC045561ES	4 Channels CWDM Mux or Demux, 1550-1610nm, with Expansion Port, 1.5dB Typical IL, LC/UPC, Single Fiber, FMU Plug-in Module#214979
FMU-MC163161 EMS	16 Channels CWDM Mux or Demux, 1310-1610nm, with Monitor and Expansion Port, 4.5dB Typical IL, LC/UPC, Single Fiber, FMU Plug-in Module#214981
FMU-MC082759 EMA	8 Channels CWDM Mux Demux, 1270-1590nm, with Monitor and Expansion Port, 4.5dB Typical IL, LC/UPC, Single Fiber, Side A, FMU Plug-in Module#214983
FMU-MC082961-EMB	8 Channels CWDM Mux Demux, 1290-1610nm, with Monitor and Expansion Port, 4.5dB Typical IL, LC/UPC, Single Fiber, Side B, FMU Plug-in Module#214985
FMU-C182761M	18 Channels CWDM Mux Demux, 1270-1610nm, with Monitor Port, 5.0dB Typical IL, LC/UPC, Dual Fiber, 1U Rack Mount#33489
FMU-MC082745	8 Channels CWDM Mux Demux, 1270-1450nm (Skip 1390, 1410nm), 2.5dB Typical IL, LC/UPC, Dual Fiber, FMU Plug-in Module#42937
FMU-MC042733	4 Channels CWDM Mux Demux, 1270-1330nm, 1.0dB Typical IL, LC/UPC, Dual Fiber, FMU Plug-in Module#42972
FMU-MC09B	9 Channels CWDM Mux Demux, 1290-1610nm, 2.4dB Typical IL, LC/UPC, Single Fiber, Side-B, FMU Plug-in Module#43699
FMU-MC09A	9 Channels CWDM Mux Demux, 1270-1590nm, 2.4dB Typical IL, LC/UPC, Single Fiber, Side-A, FMU Plug-in Module#43711
FMU-MC084761EM	8 Channels CWDM Mux Demux, 1470-1610nm, with Monitor and Expansion Port, 2.0dB Typical IL, LC/UPC, Dual Fiber, FMU Plug-in Module#78163

FMU Series
Mux Demux

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Mux Demux

FMU-C182761M	18 Channels CWDM Mux Demux, 1270-1610nm, with Monitor Port, 2.2dB Typical IL, LC/UPC, Dual Fiber, 1U Rack Mount#123533
FMU-D60OCMW5	60 Odd Channels DWDM Mux Demux, Super C-band 100GHz 1524.50-1571.65nm, with Monitor Port, 6.0dB Typical IL, LC/UPC, Dual Fiber, 1U Rack Mount#166000
FMU-D60ECMW5	60 Even Channels DWDM Mux Demux, Super C-band 100GHz 1524.89-1572.06nm, with Monitor Port, 6.0dB Typical IL, LC/UPC, Dual Fiber, 1U Rack Mount#166001
FMU-D40ODMW5	40 Odd Channels Super C-band 150GHz 190.7875-196.6375THz, with Monitor Port, 5.5dB Typical IL, LC/UPC, Dual Fiber DWDM Mux Demux, 1U Rack Mount#166002
FMU-D40 EDMW5	40 Even Channels Super C-band 150GHz 190.7125-196.5625THz, with Monitor Port, 5.5dB Typical IL, LC/UPC, Dual Fiber DWDM Mux Demux, 1U Rack Mount#166003
FMU-D64BMW5	64 Channels DWDM Mux Demux, Super C-band 75GHz 1528.87-1566.62nm, with Monitor Port, 5.8dB Typical IL, LC/UPC, Dual Fiber, 1U Rack Mount#166004
FMU-MD082128EMS	8 Channels DWDM Mux or Demux, 100GHz C21-C28, with Monitor and Expansion Port, 2.75dB Typical IL, LC/UPC, Single Fiber, FMU Plug-in Module#214969
FMU-MD042124EMA	4 Channels DWDM Mux Demux, 100GHz C21-C24, with Monitor and Expansion Port, 2.75dB Typical IL, LC/UPC, Single Fiber, Side A, FMU Plug-in Module#214971
FMU-MD045760EMB	4 Channels DWDM Mux Demux, 100GHz C57-C60, with Monitor and Expansion Port, 2.75dB Typical IL, LC/UPC, Single Fiber, Side B, FMU Plug-in Module#214973
FMU-MD042023EMD	4 Channels DWDM Mux Demux, 100GHz C20-C23, with Monitor and Expansion Port, 1.6dB Typical IL, LC/UPC, Dual Fiber, FMU Plug-in Module#214975
FMU-D402160M3	40 Channels DWDM Mux Demux, 100GHz C21-C60, with 1310nm and Monitor Port, 3.5dB Typical IL, LC/UPC, Dual Fiber, 1U Rack Mount#35887
FMU-D162136EM3	16 Channels DWDM Mux Demux, 100GHz C21-C36, with Monitor, Expansion and 1310nm Port, 4.4dB Typical IL, LC/UPC, Dual Fiber, 1U Rack Mount#72430
FMU-D162136A	16 Channels DWDM Mux Demux, 100GHz C21-C36, 4.0dB Typical IL, LC/UPC, Single Fiber, Side-A, 1U Rack Mount#78535
FMU-D164560B	16 Channels DWDM Mux Demux, 100GHz C45-C60, 4.0dB Typical IL, LC/UPC, Single Fiber, Side-B, 1U Rack Mount#78536
FMU-FD402160M3	40 Channels DWDM Mux Demux, 100GHz C21-C60, with 1310nm Port and Monitor Port, 4.5dB Typical IL, LC/UPC, Dual Fiber, 1U Rack Mount#84492
FMU-MD085360E	8 Channels DWDM Mux Demux, C53-C60, with Expansion Port, 2.8dB Typical IL, LC/UPC, Dual Fiber, FMU Plug-in Module, CWDM/DWDM Hybrid Solution#30568
FMU-D402160M	40 Channels DWDM Mux Demux, 100GHz C21-C60, with Monitor Port, 3.0dB Typical IL, LC/UPC, Dual Fiber, 1U Rack Mount#33485
FMU-MD08_EB	8 Channels DWDM Mux Demux, 100GHz C22-C36, with Expansion Port, 4.2dB Typical IL, LC/UPC, Single Fiber, Side-B, FMU Plug-in Module#50116
FMU-MD08_EA	8 Channels DWDM Mux Demux, 100GHz C21-C35, with Expansion Port, 4.2dB Typical IL, LC/UPC, Single Fiber, Side-A, FMU Plug-in Module#50117
FMU-MD085360EM3	8 Channels DWDM Mux Demux, 100GHz C53-C60, with Monitor, Expansion and 1310nm Port, 3.0dB Typical IL, LC/UPC, Dual Fiber, FMU Plug-in Module, CWDM/DWDM Hybrid Solution#72433
FMU-L042728B	4 Channels 1273.55-1286.66nm, Single Fiber LAN-WDM Mux Demux, Side-B, FMU Plug-in Module, LC/UPC#244655
FMU-L042930A	4 Channels 1295.56-1309.14nm, Single Fiber LAN-WDM Mux Demux, Side-A, FMU Plug-in Module, LC/UPC#244657
DOADM-DF	Customized Dual Fiber DWDM OADM#70427
COADM-DF	Customized Dual Fiber CWDM OADM#70425

OADM

[FMU-1UFMX-N](#)

FMU 2-Slot 1U 19" Rack Chassis Unloaded, Holds upto 2 Units FMU Plug-in Module#30408

[FHD-1U-CMP400](#)

FHD® High Density 1U Rack Mount Modular Enclosure Unloaded, Rear Cable Managers, Holds upto 4x FHD® Cassettes or Panels, 144 Fibers (LC)#704198

TRANSPONDERS & MUXPONDERS

25G [FMT4DL-OEO25GSFP28](#) FMT4DL-OEO25GSFP28, 4 Channels 25GWDM Transponder (Converter) for FMT Managed Chassis, 8 SFP28/SFP+ Slots#92056

10G [FMT4DL-OEO10GSFP](#) FMT4DL-OEO10GSFP, 4 Channels WDM Transponder (Converter) for FMT Managed Chassis, 8 SFP/SFP+ Slots#30515

Chassis [FMT04-CH1U](#) FMT04-CH1U, 4 Slots 1U Managed Chassis Unloaded Platform, Redundant AC PSUs, Support SNMPV1 Network Management#39214

[FMTCH](#)

FMT-CH, Customized 4/8/16 Slots 1U/2U/4U Managed Chassis Unloaded Platform, Redundant AC/DC PSUs, Support SNMP Network Management#70413

WDMTRANSCEIVERS

100G/200G CFP2	CFP2-DCO-200G-M	C14 1566.31 nm CFP2-DCO 100G/200G DWDM C-band Tunable 96Chs ITU CH13-CH60 50GHz 80km DOM Duplex LC/ UPC SMF Optical Transceiver Module for Transmission#120128
	DW-SFP25G10-17	Cisco C 17 DWDM-SFP25G-63.86 Compatible SFP28 25G DWDM 1563.86 nm 100GHz 10km DOM Duplex LC/ UPC SMF Optical Transceiver Module for Transmission#87000
25G SFP28	CW-SFP25G30-27	Cisco CWDM-SFP25G-1270-30 Compatible SFP28 25G CWDM 1270 nm 30km DOM Duplex LC/ UPC SMF Optical Transceiver Module for Transmission#100112
	CW-SFP25G10-27	Cisco CWDM-SFP25G-1270-10 Compatible SFP28 25G CWDM 1270 nm 10km DOM Duplex LC/ UPC SMF Optical Transceiver Module for Transmission#76003
	LW-SFP25G40-86	Cisco LWDM-SFP25G-86.66 Compatible SFP28 25G LWDM 1286.66 nm 40km DOM Duplex LC/ UPC SMF Optical Transceiver Module for Transmission#93786
	DW-SFP10G80-21-I	Cisco C21 DWDM-SFP10G-60.61-I Compatible SFP+ 10G DWDM 1560.61nm 100GHz 80km DOM Duplex LC/ UPC SMF Optical Transceiver Module for Transmission (Industrial)#113562
10G SFP+	DW-SFP10G40-21-I	Cisco C21 DWDM-SFP10G-60.61-I Compatible SFP+ 10G DWDM 1560.61nm 100GHz 40km DOM Duplex LC/ UPC SMF Optical Transceiver Module for Transmission (Industrial)#113511
	CW-SFP10G80-47	Cisco CWDM-SFP10G-1470 Compatible SFP+ 10G CWDM 1470 nm 80 km DOM Duplex LC/ UPC SMF Optical Transceiver Module for Transmission#19367
	CW-SFP10G40-27-I	Cisco CWDM-SFP10G-1270-I Compatible SFP+ 10G CWDM 1270 nm 40km DOM Duplex LC/ UPC SMF Optical Transceiver Module for Transmission (Industrial)#112392
1G SFP	DWDM-SFP1G- EZX	Cisco C 17 DWDM-SFP-6386 Compatible SFP 1000 BASE-DWDM 1563.86nm 100GHz 100km DOM Duplex LC/ UPC SMF Optical Transceiver Module for Transmission#54150
	DWDM-SFP1G- ZX	Cisco C17 DWDM-SFP-6386-80 Compatible SFP 1000BASE-DWDM 1563.86nm 100GHz 80km DOM Duplex LC/UPC SMF Optical Transceiver Module for Transmission#47697
	CWDM-SFP1G- ZX	Cisco CWDM-SFP-1270 Compatible SFP 1000BASE-CWDM 1270 nm 80 km DOM Duplex LC/ UPC SMF Optical Transceiver Module for Transmission#33234

*Standard products are listed above. Customized specifications are available upon request.