

A solid red circle.

FMU-C182761M Data Sheet

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Product Overview

The 18CH Mux Demux, based on Free Space technology, is a passive CWDM device featuring high density, low loss, and short-haul transmission suitability. It is integrated with a monitor port, which supports expanding the capacity of existing fiber infrastructure. Also, it utilizes 1530nm and 1550nm CWDM channels to transmit multiple DWDM wavelengths within a single CWDM channel, providing a cost-effective and easily scalable solution. In addition, this unit can act as either a multiplexer or de-multiplexer (Mux/Demux). It combines 18-channel of CWDM wavelengths into a composite signal and separates the combined CWDM signal into 18-channel individual wavelengths over a pair of single-mode optical fiber. In accordance with the ITU-T G.694.2, it maximizes the capacity of the C-band range.

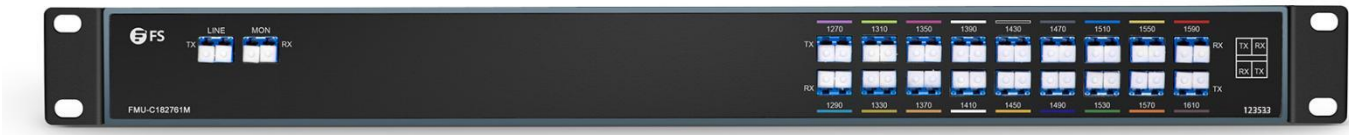
It supports 1G/10G/25G Ethernet, SDH/SONET, 16/8/4/2/1G Fiber Channel, FTTx and CATV. When deployed with FS CWDM optical transceivers, OEO and OADM modules, it seamlessly enables flexible network architectures ranging from simple point-to-point connections to amplified ring configurations.



Features and Benefits

- Multiplexing of up to 18 Channels on Fiber Pair to Maximize the Using of Existing Fiber
- Compatible with ITU Grid and Interconnects with Optical Networking Products
- Monitor Port Taps off 1% of the Signal to Monitor the Channel Power Levels
- Hybrid C/DWDM System via 1530nm/1550nm for Additional DWDM Channels
- Passive Transparent Multiplexing at Any Rate, Any Service, Including Ethernet, SDH/SONET, Fiber Channel, FTTx, and CATV
- Suitable for Short Distance Transmission, Commonly Used in Small and Medium-sized Networks
- The Solution can be [Customized](#) per Customer Application Requirements

Front Panel and Port Description



LINE

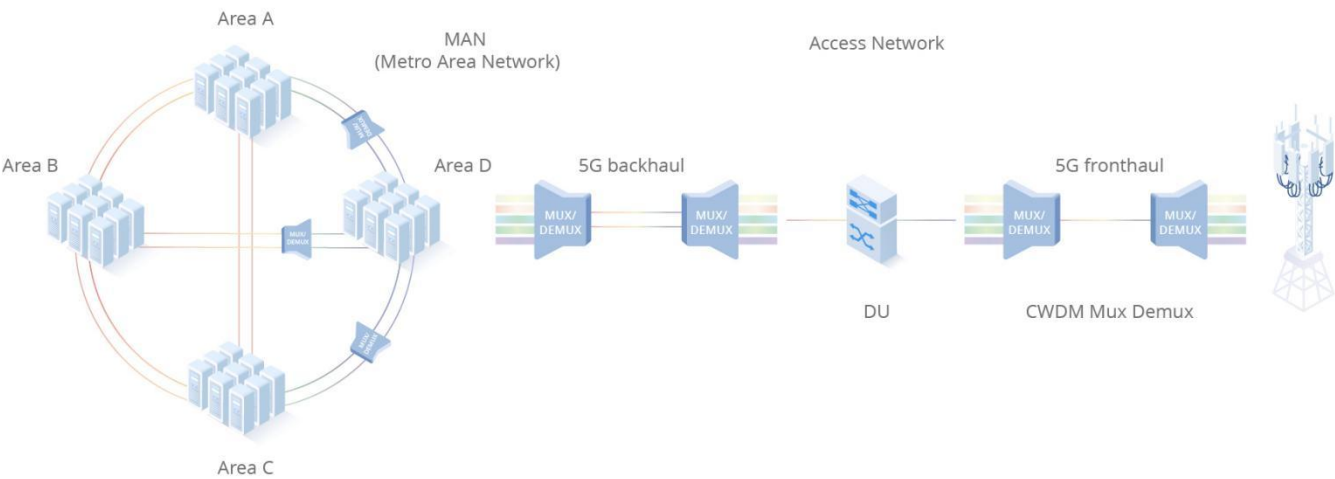
Line interface for common signal

MON

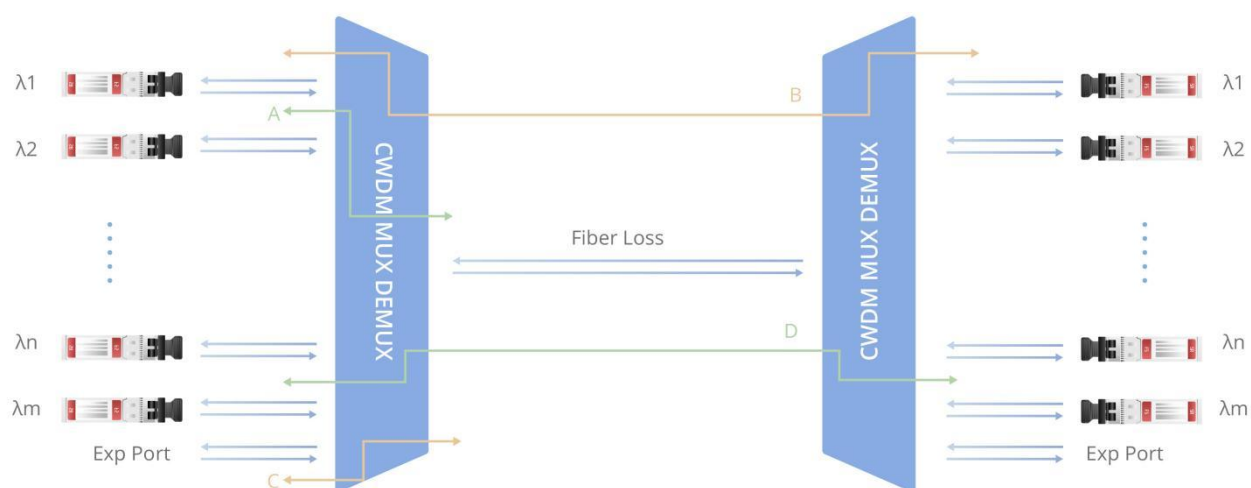
1% Monitoring for easy troubleshooting

Application

CWDM is suitable for ISPs, carriers, enterprises and other scenarios. Through CWDM technology, multiple wavelengths are multiplexed on a single fiber to achieve high-speed, high-capacity data transmission between sites, significantly saving fiber resources and reducing deployment costs.



Fiber Loss



Product Specification

Parameter	Value
Center Wavelength	1270-1610nm
Channel Spacing	20nm
Channel Passband	±6.5nm
Insertion Loss, Per Channel (A)	≤2.5dB
Link Loss, Per Channel (B)	≤5.0dB
Insertion Loss, Mon Port (C)	≤24dB
Adjacent Channel Isolation	≥30dB
Non-adjacent Channel Isolation	≥40dB
Technology	Free Space
Passband Ripple	≤0.3dB
PDL	≤0.3dB
Return Loss	≥45dB
Directivity	≥50dB
PMD	≤0.1ps
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)
Fiber Type	G657 A1
Connector Type	LC/UPC Connector

Parameter	Value
Dimensions (H x W x D)	1.73"x19"x10.28" (44x481.8±0.2x261.2mm)
Rack Space	Standard 1U
Housing	FMU 1U Rack Mount

Notes: Insertion Loss is specified with connectors and adapters.

ITU Channel Guiding

ITU Channel No.	27	29	31	33	35	37	39	41	43
Wavelength (nm)	1270	1290	1310	1330	1350	1370	1390	1410	1430

ITU Channel No.	45	47	49	51	53	55	57	59	61
Wavelength (nm)	1450	1470	1490	1510	1530	1550	1570	1590	1610

High Quality CWDM Transceivers to Build a Passive CWDM System

FS.COM offers CWDM 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.



CWDM-SFP



CWDM-10G SFP+



CWDM-25G SFP28

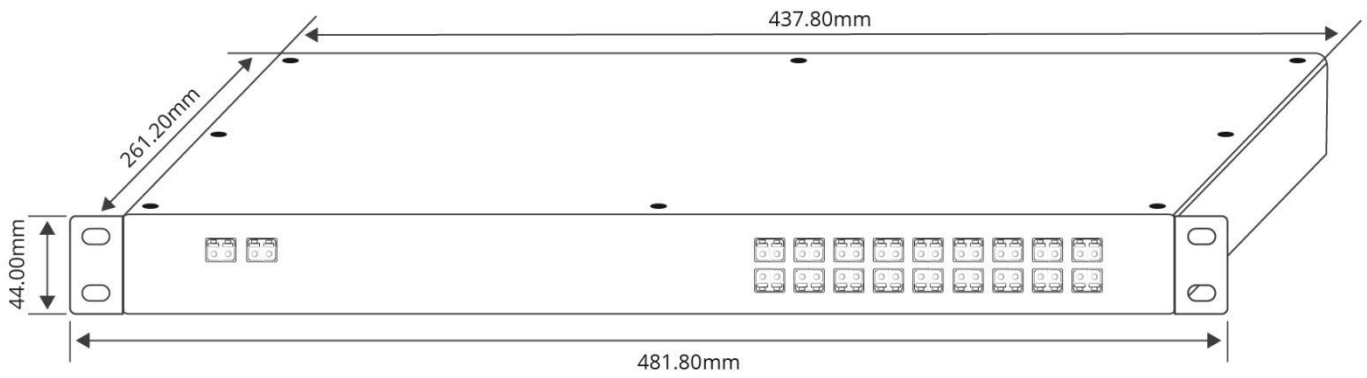


CWDM-3G-SDI-SFP



CWDM-XFP

Layout and Dimensions



- Height: 44mm(1.73")
- Width: 481.8±0.2mm (19")
- Depth: 261.2mm (10.28")

Ordering Information

Mux Demux & OADM

FMU Series Mux Demux

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-MC163161EMS	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-MC082759EMA	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-MC082961EMB	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-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-D40EDMW5	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

Mux Demux & OADM

FMU Series Mux Demux	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-MD08EB	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
Customized Mux Demux	FMU-MD08EA	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
	MUX-DWDM	Customized Dual and Single Fiber DWDM Mux Demux#322911
	MUX-CWDM	Customized Dual and Single Fiber CWDM Mux Demux#70410
	MUX-CCWDM	Customized Dual and Single Fiber Low-loss Compact CWDM Mux Demux#73961
	DOADM-EAW	Customized Dual and Single Fiber DWDM OADM, East and West#70427
	DOADM-EOW	Customized Dual and Single Fiber DWDM OADM, East or West#73795
	COADM-EAW	Customized Dual and Single Fiber CWDM OADM, East and West#70425
OADM	COADM-EOW	Customized Dual and Single Fiber CWDM OADM, East or West#73794

Mux Demux & OADM

Chassis

[FMU-1UFMX-N](#)

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

TRANSPONDERS & MUXPONDERS

25G

[FMT4DL-OEO25GSFP28](#)

FMT4DL-OEO25GSFP28, 4 Channels 25G WDM 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 SNMP V1 Network Management#39214

[FMT-CH](#)

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

WDM TRANSCEIVERS

100G/200G CFP2

[CFP2-DCO-200G-M](#)

C14 1566.31nm 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 C17 DWDM-SFP25G-63.86 Compatible SFP28 25G DWDM 1563.86nm 100GHz 10km DOM Duplex LC/UPC SMF Optical Transceiver Module for Transmission#87000

[CW-SFP25G30-27](#)

Cisco CWDM-SFP25G-1270-30 Compatible SFP28 25G CWDM 1270nm 30km DOM Duplex LC/UPC SMF Optical Transceiver Module for Transmission#100112

25G SFP28

[CW-SFP25G10-27](#)

Cisco CWDM-SFP25G-1270-10 Compatible SFP28 25G CWDM 1270nm 10km DOM Duplex LC/UPC SMF Optical Transceiver Module for Transmission#76003

[LW-SFP25G40-86](#)

Cisco LWDM-SFP25G-86.66 Compatible SFP28 25G LWDM 1286.66nm 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

[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

10G SFP+

[CW-SFP10G80-47](#)

Cisco CWDM-SFP10G-1470 Compatible SFP+ 10G CWDM 1470nm 80km DOM Duplex LC/UPC SMF Optical Transceiver Module for Transmission#19367

[CW-SFP10G40-27-I](#)

Cisco CWDM-SFP10G-1270-I Compatible SFP+ 10G CWDM 1270nm 40km DOM Duplex LC/UPC SMF Optical Transceiver Module for Transmission (Industrial)#112392

[DWDM-SFP1G-EZX](#)

Cisco C17 DWDM-SFP-6386 Compatible SFP 1000BASE-DWDM 1563.86nm 100GHz 100km DOM Duplex LC/UPC SMF Optical Transceiver Module for Transmission#54150

1G SFP

[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 1270nm 80km DOM Duplex LC/UPC SMF Optical Transceiver Module for Transmission#33234

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



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