

A solid red circle graphic.

FHD-C82745EM Data Sheet

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Product Overview

The 8CH 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 and an expansion port. The 1% monitor port allows easy troubleshooting without downtime and the expansion port supports expanding the capacity of existing fiber infrastructure. In addition, this unit can act as either a multiplexer or de-multiplexer (Mux/Demux). It combines 8-channel of CWDM wavelengths into a composite signal and separates the combined CWDM signal into 8-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. Designed for maximum configuration flexibility, the CWDM Mux Demux can plug directly into the FHD® chassis, each module occupying one slot.

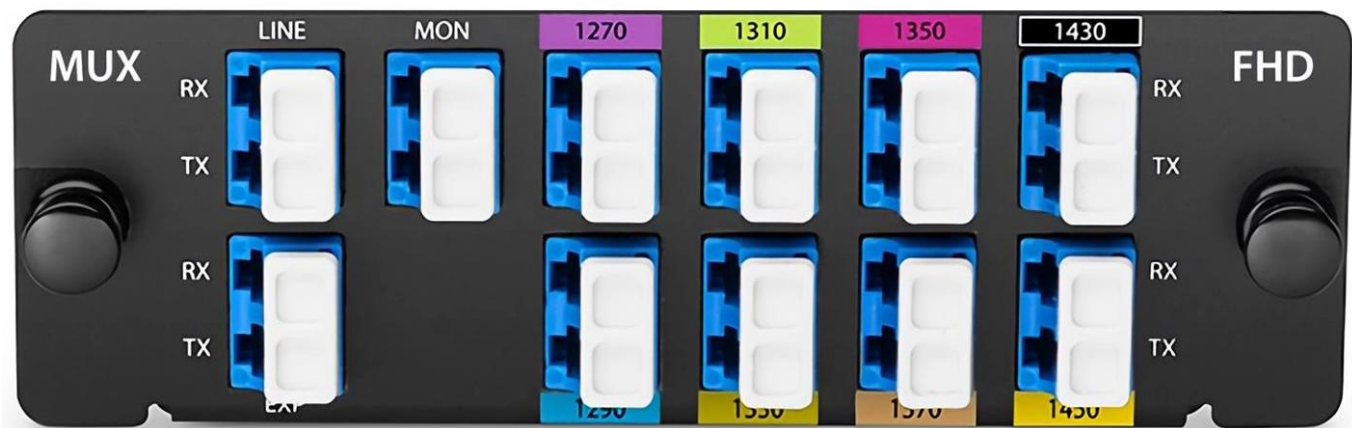
It supports 1G/10G/25G Ethernet, SDH/SONET, 16/8/4/2/1G Fiber Channel, FTTx and CATV. When deployed with FS CWDM optical transceivers, OEO and OADM modules, it seamlessly enables flexible network architectures ranging from simple point-to-point connections to amplified ring configurations.



Features and Benefits

- Multiplexing of up to 8 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
- Expansion Port for Adding Additional Channels and Increasing Capacity
- Enables Space-efficient Integration and Hybrid Deployment of CWDM, DWDM, FAP and MTP Cassettes within the FHD® Chassis
- 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
- Fit into One Slot of the [FHD® 4-Slot 1U 19" Rack Chassis](#)

Front Panel and Port Description



LINE

MON

EXP

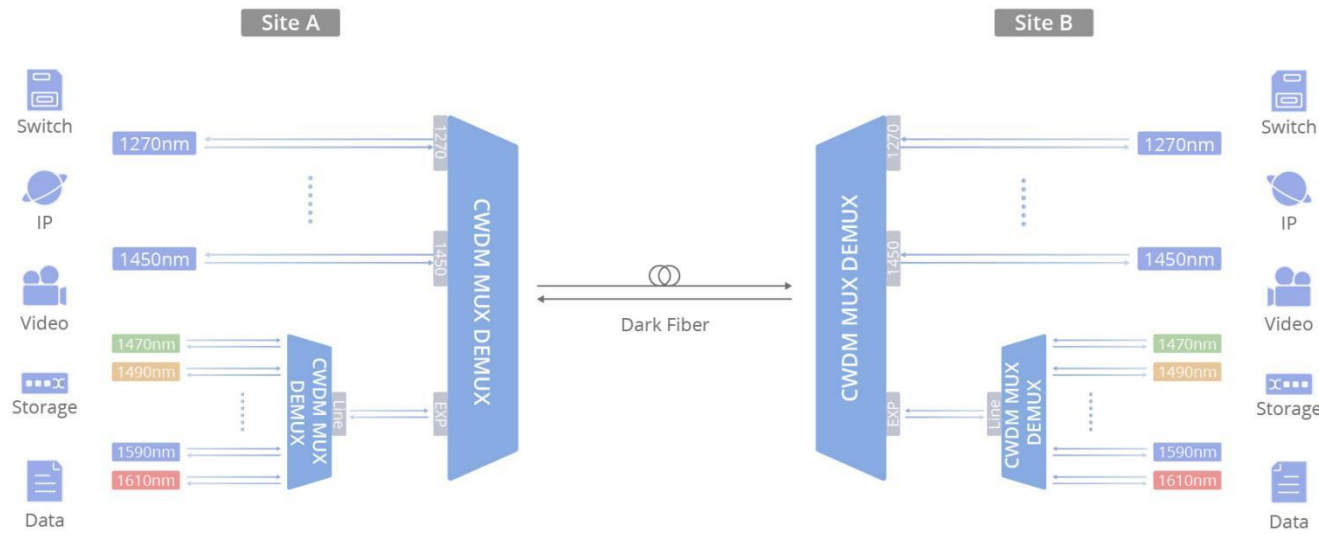
Line interface for common signal

1% Monitoring for easy troubleshooting

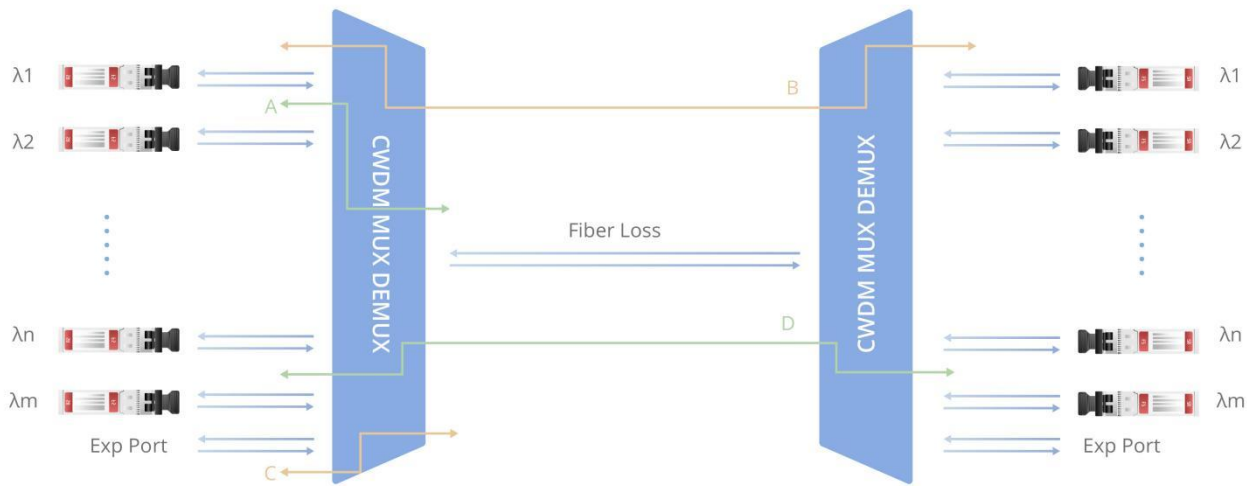
Expansion for additional channels

Application

Expansion port can be used to connect another CWDM MUX DEMUX for wavelength expansion.



Fiber Loss



 Product Specification

Parameter	Value
Center Wavelength	1270nm, 1290nm, 1310nm, 1330nm, 1350nm, 1370nm, 1430nm, 1450nm
Channel Spacing	20nm
Channel Passband	±6.5nm
Channel Passband (Exp port)	1463-1620nm
Insertion Loss, Per Channel (A)	≤2.4dB
Link Loss, Per Channel (B)	≤4.8dB
Insertion Loss, Expansion Port (C)	≤1.0dB
Link Loss, Expansion Ports (D)	≤2.0dB
Insertion Loss @ 1% Mon	≤24dB
Exp Isolation	≥15dB
Adjacent Channel Isolation	≥30dB
Non-adjacent Channel Isolation	≥40dB
Technology	Free Space
Passband Ripple	≤0.5dB
Directivity	≥50dB
Return Loss	≥45dB
PDL	≤0.3dB
PMD	≤0.1ps
Max Optical Power	≤500mW (27dBm)

Parameter	Value
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
Dimensions (H x W x D)	1.38"x4.29"x4.64" (35x109x118mm)
Rack Space	1U ¼-width Plug-in Module
Housing	Pluggable Module (Occupies 1 Slot in FHD® Chassis)

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

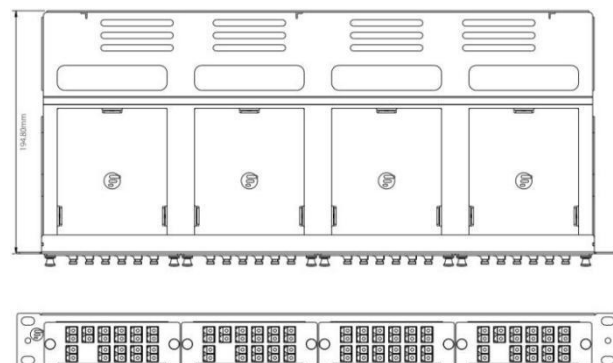
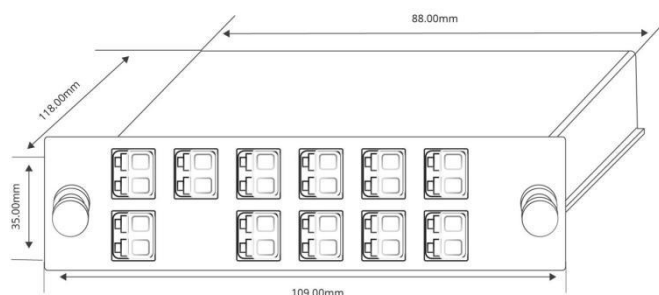


CWDM-3G-SDI-SFP



CWDM-XFP

Layout and Dimensions



- Height: 35.00mm (1.35")
- Width: 109.00mm (4.29")
- Depth: 118.00mm (4.64")

4-slot FHD managed chassis, supports up to 4 DWDM Mux Demux or CWDM Mux Demux modules with different channels in FHD packages.

- Height: 1.73" (44mm)
- Width: 19.00" (482.6mm)
- Depth: 7.67" (194.8mm)

Mux Demux plug-in module occupies one slot.

Ordering Information

Mux Demux & OADM

FHD Series Mux Demux	FHD-D82128EM3	8 Channels DWDM Mux Demux, 100GHz C21-C28, with EXP & Mon and 1310nm Port, 2.4dB Typical IL, LC/UPC, Dual Fiber, High Density, FHD® Plug-in Module#126899
	FHD-D82936EM	8 Channels DWDM Mux Demux, 100GHz C29-C36, with Monitor and Expansion Port, 2.4dB Typical IL, LC/UPC, Dual Fiber, High Density, FHD Plug-in Module#126900
	FHD-D85360EM	8 Channels DWDM Mux Demux, 100GHz C53-C60, with Monitor and Expansion Port, 2.4dB Typical IL, LC/UPC, Dual Fiber, High Density, FHD Plug-in Module, CWDM/DWDM Hybrid Solution#126901
	FHD-C84761EM	8 Channels CWDM Mux Demux, 1470-1610nm, with Monitor and Expansion Port, 2.0dB Typical IL, LC/UPC, Dual Fiber, High Density, FHD Plug-in Module#126902
	FHD-C82745EM	8 Channels CWDM Mux Demux, 1270-1450nm (Skip 1390, 1410nm), with Monitor and Expansion Port, 2.0dB Typical IL, LC/UPC, Dual Fiber, High Density, FHD Plug-in Module#126903
Customized Mux Demux	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
OADM	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
	COADM-EOW	Customized Dual and Single Fiber CWDM OADM, East or West#73794
Chassis	FHD-1U-CMP400	FHD® High Density 1U Rack Mount Modular Enclosure Unloaded, Rear Cable Managers, Holds up to 4 x FHD® Cassettes or Panels, 144 Fibers (LC)#70419

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
25G SFP28	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

WDM TRANSCEIVERS

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
10G SFP+	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
	CW-SFP10G80-47	Cisco CWDM-SFP10G-1470 Compatible SFP+ 10G CWDM 1470nm 80km DOM Duplex LC/UPC SMF Optical Transceiver Module for Transmission#19367
1G SFP	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
	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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