Datasheet

4 Channels 1270-1330nm Dual Fiber CWDM Mux Demux

FMU Plug-in Module, LC/UPC

Overview

The CWDM Mux Demux support ITU-T G.694.2 wavelengths from 1270nm to 1330nm in 20nm increments. It is a flexible plug-and-play network solution that allows network operators to cost effectively implement point to point or ring based WDM optical networks.

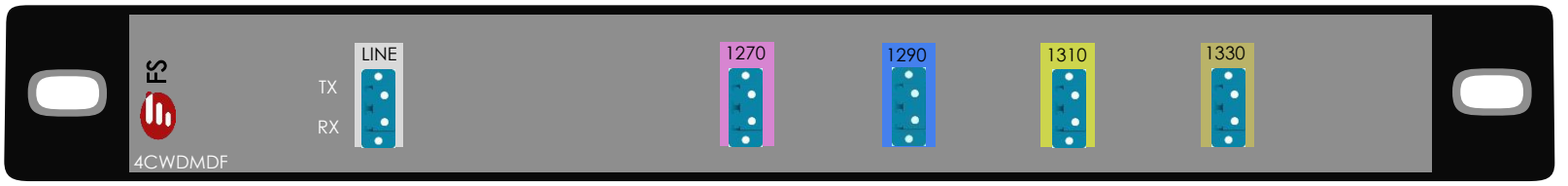
The main fields of applications are the use in SDH (STM-1, STM-4, STM-16, STM- 64), IP (Fast Ethernet, Gigabit Ethernet, 10 Gigabit) ATM and storage (1G, 2G, 4G, 8G, 10G Fibre Channel) networks.

Highlights

- Multiplexing of up to 4 channels on fiber pair
- Low insertion loss
- Low-profile 1U half 19" rack plug-in module design
- Duplex LC/UPC, easily support duplex patch cables between transceiver and passive unit
- Compliant to ITU-T G.694.2 standard
- Standard 4-channel CWDM band 1270 nm - 1330 nm, 20 nm spacing
- Based on thin-film filter technology
- Passive, no electric power required. (MTBF ca. 500 years)

Front View

Connectors, located on the front of the CWDM Mux Demux modules, are labeled and use the same color-coding that is used to indicate the wavelength of the individual CWDM transceivers. The connectors at the end of CWDM transceivers are similarly color-coded, which simplifies the process of connecting a CWDM transceiver to its associated device port.



Technical Data

Parameter	Unit	Value
Center Wavelength	nm	1270, 1290, 1310, 1330
Insertion Loss	dB	< 2.4 (including connectors and adapters)
Channel Spacing	nm	20
Channel Flatness	dB	< 0.4
Channel Bandwidth	nm	+ / – 6.5
Channel Uniformity	dB	< 1.5
Adjacent Channel Isolation	dB	> 30
Non-adjacent Channel Isolation	dB	> 50
Return Loss	dB	> 45
PDL	dB	< 0.15
PMD	dB	< 0.1
Wavelength thermal stability	nm/℃	< 0.003
Insertion Loss thermal stability	dB /℃	< 0.005
Power Handling	mW	<500
Operating Temperature	° C	-5~ +75
Storage Temperature	° C	-40~ +80

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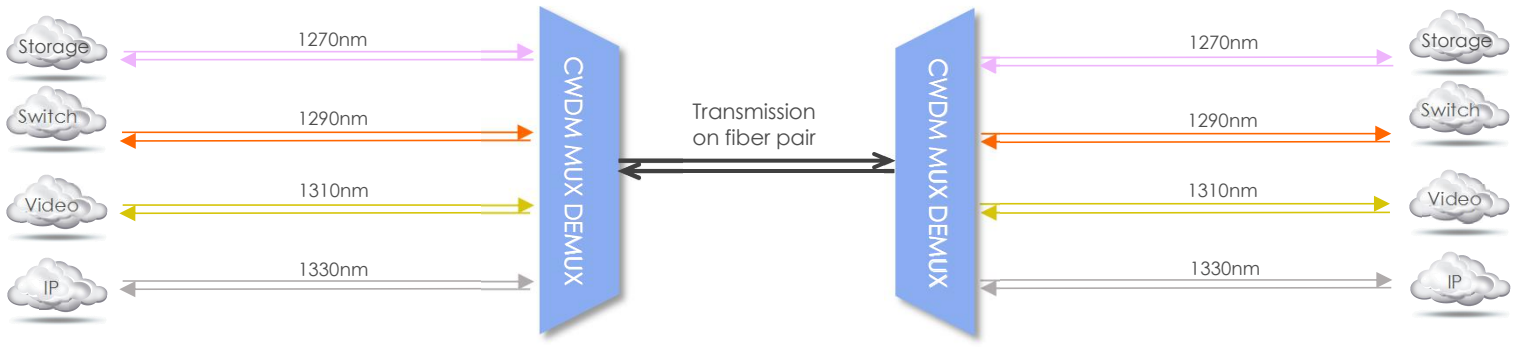
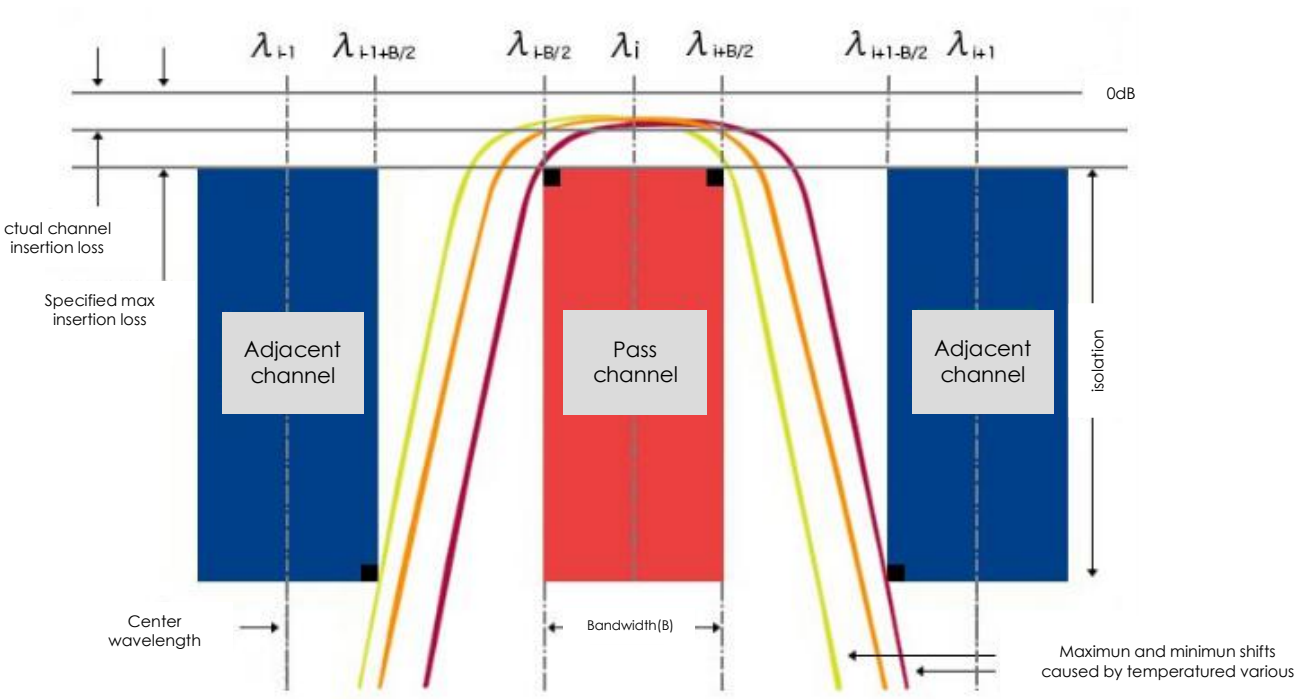
Function

Increase capacity on the existing fiber infrastructure.



FS.COM Quality Assurance by Using High-quality CWDM Multiplexers

Our components fulfill or exceed standard market specifications for optical components. It may still not be entirely obvious how different parameters like isolation are more closely defined. The following diagram illustrates the most important parameters, following the "red box model", in accordance with ITU. The channel, including its bandwidth and isolation as defined by the component specifications, delineates a box. The measured transmission spectrum of each channel has to be above the box. Under no circumstances can it interfere with any neighboring box (channel). Therefore, isolation and insertion losses have to be maintained within the borders set out by the defined center wavelengths and bandwidth.



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CWDM Mux Demux Series

WHOLE BAND (1270-1610NM)

Application	ID#	Description
Whole band (1270-1610nm)	33489	18 ch. CWDM Mux Demux, C27-C61, with monitor port, IL Link < 5.5dB, duplex LC/UPC

HIGH BAND (1470-1610NM)

Application	ID#	Description
High band (1470-1610nm)	43099	8 ch. CWDM Mux Demux, C47-C61, with expansion port, IL Link < 3.1dB, duplex LC/UPC
High band (1470-1610nm)	43097	8 ch. CWDM Mux Demux, C47-C61, IL Link < 3.1dB, duplex LC/UPC
High band (1470-1610nm)	42973	4 ch. CWDM Mux Demux, C51-C57, with expansion port, IL Link < 2.4dB, duplex LC/UPC
High band (1470-1610nm)	42944	4 ch. CWDM Mux Demux, C51-C57, IL Link < 2.4dB, duplex LC/UPC

LOW BAND (1270-1430NM)

Application	ID#	Description
Low band (1270-1430nm)	42945	8 ch. CWDM Mux Demux, C29-C43, IL < 3.1dB, duplex LC/UPC, Expansion Mux Demux to ID#43099
Low band (1270-1430nm)	42972	4 ch. CWDM Mux Demux, C27-C33, IL < 2.4dB, duplex LC/UPC, Expansion Mux Demux to ID#42973

SINGLE FIBER

Application	ID#	Description
Single fiber	68215	Pair Packaged 9 ch. CWDM Mux Demux, single fiber, C27-C61 for transceiver wavelengths, IL < 5.2dB/unit, LC/UPC
Single fiber	68213	Pair Packaged 8 ch. CWDM Mux Demux, Single Fiber, C29-C61 for transceiver wavelengths, IL < 4.85dB/unit, LC/UPC
Single fiber	68210	Pair Packaged 4 ch. CWDM Mux Demux, single fiber, C47-C61 for transceiver wavelengths, with expansion port, IL < 3.1dB/unit, LC/UPC
Single fiber	68211	Pair Packaged 4 ch. CWDM Mux Demux, single fiber, C47-C61 for transceiver wavelengths, IL < 3.1dB/unit, LC/UPC

Channel Wavelengths and Color Coding for CWDM

For CWDM systems an industry standard color coding scheme is used. The latches of the tranceivers match the colored port indicators on the passive units therefore gauranteeing simple setup, following color codes and wavelength are valid for CWDM.

ITU channel no.	Wavelength	color	color coding	ITU channel no.	Wavelength	color	color coding
27	1270nm	light purple		45	1450nm	yellow orange	
29	1290nm	sky blue		47	1470nm	gray	
31	1310nm	yellow green		49	1490nm	violet	
33	1330nm	yellow ocher		51	1510nm	blue	
35	1350nm	pink		53	1530nm	green	
37	1370nm	beige		55	1550nm	yellow	
39	1390nm	white		57	1570nm	orange	
41	1410nm	silver		59	1590nm	red	
43	1430nm	black		61	1610nm	brown	

High Quality CWDM Transceivers to Build a Passive CWDM System

FS.COM offers CWDM transceiver modules in SFP, SFP+, XFP, Xenpak and X2 formats. Every optics is tested in real switches and full compatible with Cisco, Juniper, Arista, Brocade, Dell, Extreme, etc.

Transmission distances range from 10-120 km for Gigabit speeds, and 10-100km for 10 Gigabit speeds, without the use of optical amplifiers.

CWDM-SFP-1550

CWDM-10G SFP+-1470

CWDM-XFP-1490-80

10G CWDM X2

10G CWDM XENPAK

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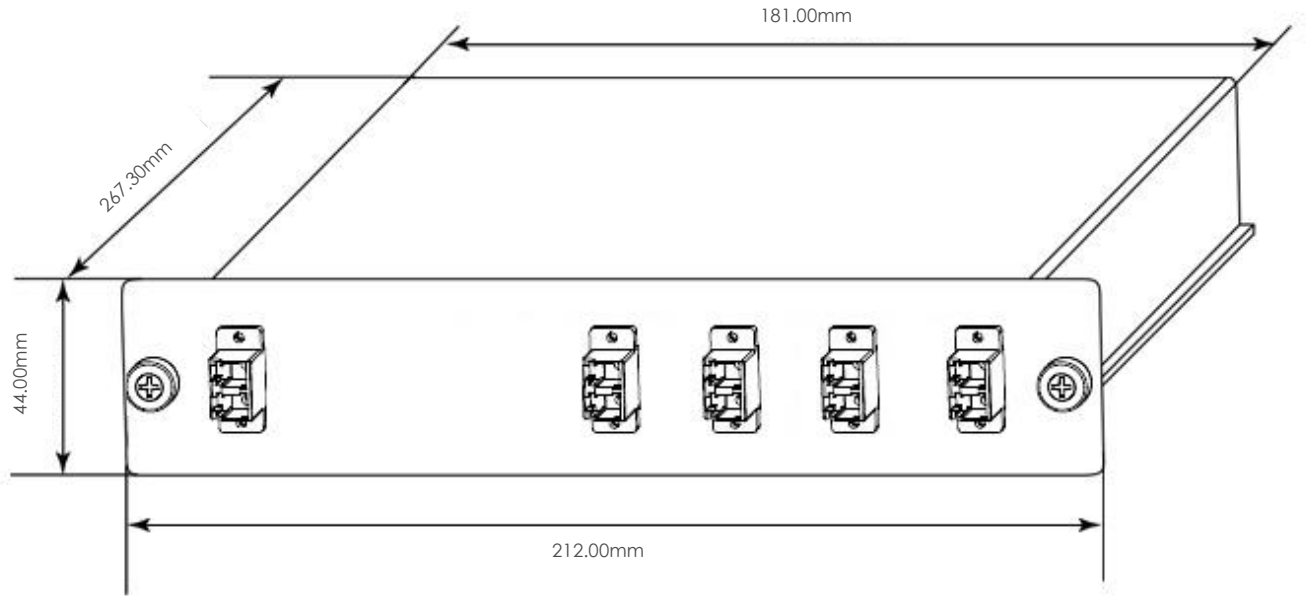
Layout and Dimensions (skip plastic frame)

- Width: 212.00mm(8.35")
- Height: 44.00mm(1.73")
- Depth: 267.30mm(10.52")

- The color of the module is black
- All fonts and lables are printed in black



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