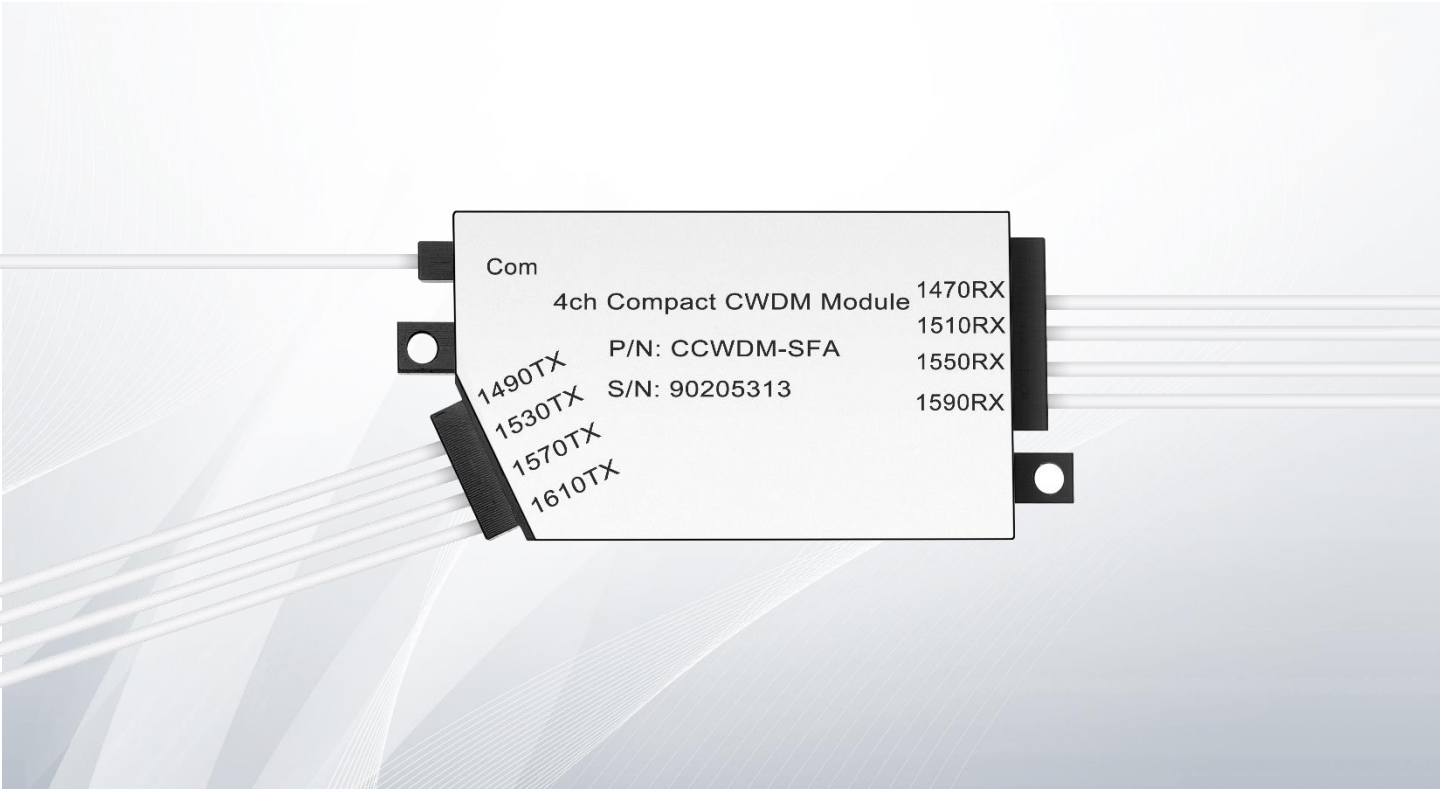


Customized Single Fiber Compact CWDM Mux Demux

Data Center & Cloud Computing Infrastructure Solutions



Overview

Compact coarse wavelength division multiplexers (CCWDM Mux) is the low insertion loss version of CWDM Mux. Compared with traditional CWDM technology, CCWDM technology adopts free-space optics platform which can significantly improve optical performance.

Main advantages of CCWDM Mux are high wavelength accuracy and stability, low insertion loss, high isolation and low PDL(polarization dependent loss).

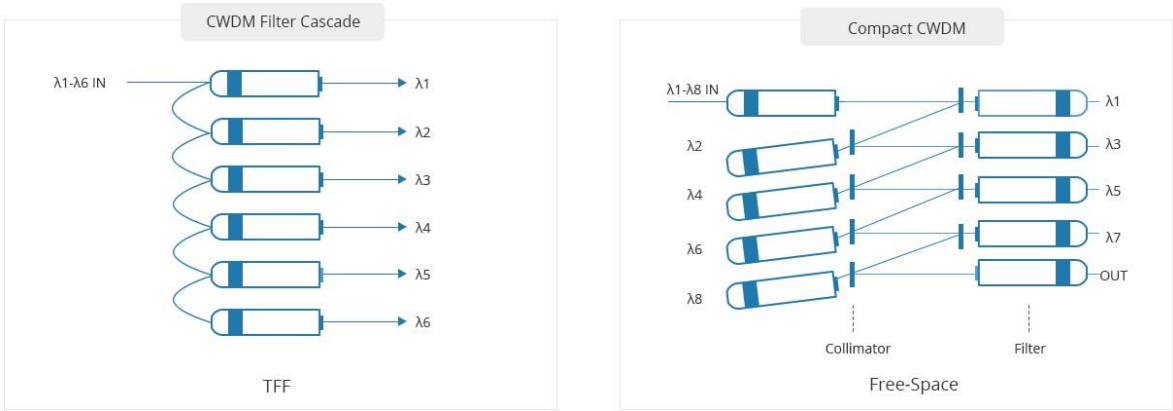
Applications

- CWDM Systems
- Telecom networks
- Metro Area Networks
- Broadband Networks
- PON Networks
- CATV Links

Highlight

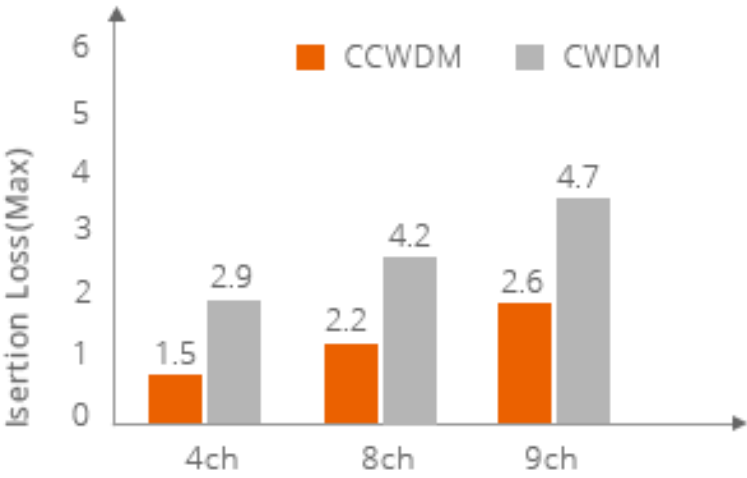
1. Unique Free-Space Technology

The CCWDM Mux adopts Free-Space technology, which uses light propagating in free space to wirelessly transmit data. Inside the device, adjacent signal channels are cascaded by parallel beam instead of the fiber.



2. Extreme Low Insertion Loss

The insertion loss of CCWDM Mux is about half of the conventional CWDM Mux. This reduces the overall loss of the whole link, and leaves more choices for the design of the solution.



Technical Specification

Parameters	Single Fiber CCWDM MUX DEMUX			
Number of Channels	2ch	4ch	8ch	9ch
Operating Wavelength	1260~1620nm			
Channel Spacing	20nm			
Channel Passband	±6.5nm			
Channel Insertion Loss	≤ 1.3dB	≤ 1.8dB	≤ 2.6dB	≤ 2.6dB
Adjacent Channel Isolation	≥30dB			
Non-adjacent Channel Isolation	≥40dB			
Technology	Free Space			
Channel Ripple	≤ 0.5dB			
Polarization Dependent Loss	≤ 0.3dB			
Return Loss	≥ 45dB			
Directivity	≥ 50dB			
Polarization Mode Dispersion	≤ 0.1ps			
Power Handling	≤ 500mW			
Operating Temperature	-40 ~ +85° C			
Storage Temperature	-40 ~ +85° C			
Fiber Type	G657A1			

Notes:

1. Specified with connectors and adapters.

Line Type

In the single fiber transmission, one fiber can transmit optical signals from two directions at the same time, and the optical signals in two directions can not have the same wavelength. The wavelength of transceivers should be different in both sides.

Special Service

1. Monitor Port

Monitor port is used to monitor or test the power signal, usually at a 1% ratio, 2%, 3%, 5%, etc, also available. By connecting with measurement or monitoring equipment, such as power meters, spectrum analyzer, or FMT AIU/OPD card, the signal can be inspected without interrupting the existing network.

2. Expansion Port

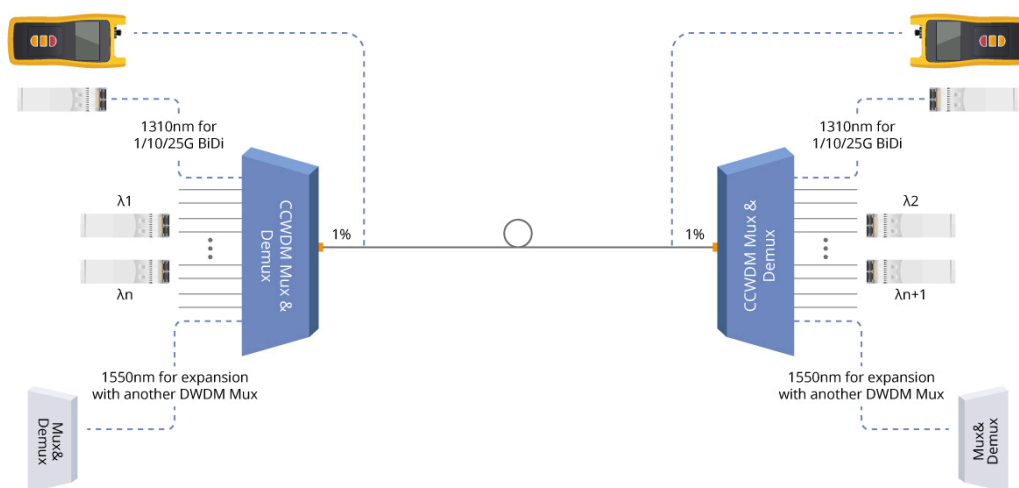
Expansion port makes it possible to increase the network capacity by connecting it to the line port of another DWDM MUX/DEMUX supporting different wavelengths, without the need of installing or leasing additional fibers.

3. 1310nm and 1550nm Ports

These two extra ports allow existing legacy 1310nm and 1550nm traffic to be added such as conventional SFP, SFP+ or other data rate conventional transceiver. And with the 1550nm port, it can be also used to cascade with another DWDM Mux for expansion.

PS:

If 1310nm port is added, the following CWDM wavelengths can't be added: 1270nm, 1290nm, 1310nm, 1330nm, 1350nm and 1370nm; If 1550nm port is added, the following CWDM wavelengths can't be added: 1510nm, 1530nm, 1550nm, 1570nm, 1590nm and 1610nm.



Housing and Enclosure

FS provides 4 different package options for dual fiber CCWDM Mux Demux, including FMU plug-in module, ABS pigtailed module, aluminum box module and 1U 19" rack mount, as well as the matched chassis.

CCWDM MUX DEMUX Optional Housing

FMU 2-slot 1U Rack

261.2mm
44mm
481.8mm
255mm
44mm
212mm

FMU Plug-in module

Aluminum Box Module

261.2mm
44mm
481.8mm

1U 19" Rack Mount

ABS Pigtailed module

0.9mm/2.0mm/3.0mm cable diameter can be customized.

Aluminum Box Module

The aluminum box of single fiber CCWDM Mux Demux has 2 kinds of dimension. For the 4 channels CCWDM Mux, the dimension is 44mm(W)*25mm(D)*6mm(H), and for the 8 channels CCWDM Mux, the dimension is 55mm(W)*45mm(D)*6mm(H).

6.0±0.2
100
2.0
44.0±0.2
25.0±0.2
50.0±0.1
2.0±0.2
5.0

Dimension: 44mm(W) x 25mm(D) x 6mm(H)
Channel Number: 4ch

6.0
45.0
55.0

Dimension: 55mm(W) x 45mm(D) x 6mm(H)
Channel Number: 8ch

Ordering Information

ID	Description	FS P/N
#73959	Compact CWDM MuxDemux, 2.6dB Max IL, Dual Fiber	CCWDM-DF
#73960	Compact CWDM Mux Demux, 2.2dB Max IL, Single Fiber, Side-B	CCWDM-SFB
#73961	Compact CWDM MuxDemux, 2.2dB Max IL, Single Fiber, Side-A	CCWDM-SFA

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