

# WDM Mux Demux Frequently Asked Questions (FAQs)

Data Center & Cloud Computing Infrastructure Solutions



## Overview

WDM stands for Wavelength Division Multiplexing, it is a technology that increases bandwidth by allowing different data streams at different frequencies to be sent over a single optical fiber network. This technique enables bidirectional communications over one strand of fiber, as well as multiplication of capacity. All protocols and speeds signals at WDM wavelengths are independent of each other.

## Highlights

- Ultra low insertion loss
- Passive, no electricity needed (MTBF ca. 500 years)
- High quality thin film filter, AWG and free-space technology
- Flexible customize services. (Special service ports, optional connectors, various housing types , etc.)

## Frequently Asked Questions by Customers

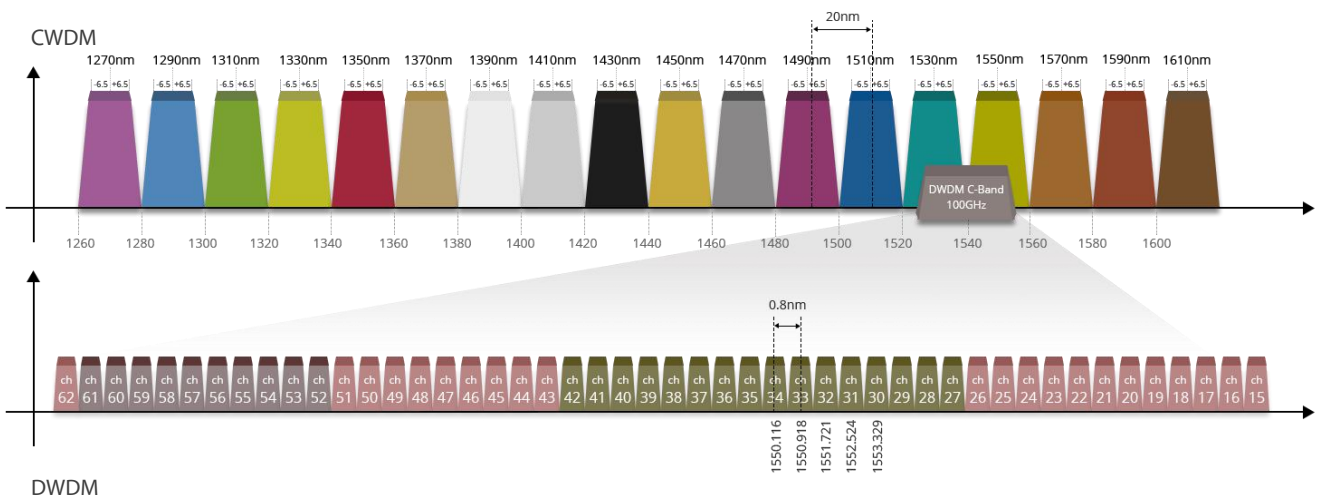
### Q: What is the difference between CWDM and DWDM, and how to choose them?

#### A: 1. Wavelength Spacing

CWDM supports up to 18 wavelength channels transmitted through a fiber at the same time. To achieve this, the different wavelengths of each channel are 20nm apart. While DWDM can accommodate 48, 96 or even 160 wavelengths with narrower wavelength spans which are as small as 0.8nm, 0.4nm or even 0.2nm.

#### 2. Transmission distance

CWDM technology offers a convenient and cost-efficient solution for shorter distances of up to 70 kilometers. For distances between 40 and 70 kilometers, CWDM tends to be limited to supporting eighteen channels. Unlike CWDM, DWDM connections can be amplified and can therefore be used for transmitting data much longer distances.



### Q: What is the difference between single fiber and dual fiber WDM Mux Demux ?

A: The difference between the single fiber and dual fiber WDM Mux Demux is the type of transmission.

- 1) The single fiber Mux Demux can carry signals through only one fiber to realize simultaneous transmission of optical signals in two directions, and the signals in two directions cannot be the same wavelength.
- 2) The dual fiber Mux Demux carries signals with two fibers. One fiber is used for the transmit direction and the other is used for the receive direction. In dual fiber transmission system, the same wavelength is normally used in both the transmit and receive directions.

Besides, in both single and dual fiber system, WDM Mux Demux must work in pairs for transmission.

### Q: Is it possible to monitor the Mux Demux by SNMP protocol?

A: No, FS Mux Demux is a passive device which can not be monitored by the SNMP protocol. The SNMP protocol is mainly used for monitor the FMT cards. You can monitor Mux Demux by other monitoring equipment, such as OPD and OPM.

### Q: Is it possible to connect the two different brand transceivers with FS Mux Demux at the same time? Such as FS and Cisco?

A: Yes, as long as the transceivers are compatible with the switches. FS Mux Demux is a multiplexing and demultiplexing device for transmission that is not the limiting factor for the connection of two different brand transceivers. The limiting factor is usually the compatibility of transceivers and switches.

**Q: Is it suitable to add the amplifier in CWDM system?**

**A:** No, the amplifier is not suitable for CWDM systems. Since the amplifier's operating wavelength range is 1528~1564nm which can not cover all the CWDM operating wavelength. Generally, the amplifier is used for DWDM systems.

**Q: Is it possible for your DWDM Mux Demux to accommodate 100G DWDM transceiver?**

**A:** Yes, FS DWDM Mux Demux is passive and will accommodate 100G DWDM transceiver. The passive optical components are typically not the limiting factor to what type of network or speed that can be run through it. This limiting factors are determined by the types of transceivers used in the network along with the quality of the fiber optic network being used.

**Q: Is it possible to encrypt the transmitted signal by your WDM system?**

**A:** No, FS WDM Mux Demux will only change the power of the transmitted signal, and can not realize the encryption requirements . If you need to encrypt the signal, you can encrypt the it on the firewall and router.

**Q: What is adjacent channel isolation?**

**A:** Isolation is the difference of the maximum insertion loss within the filter pass band and the minimum loss occurring within other filtering pass bands. When other filters are those with pass bands nearest to the filter's pass band, it is called the adjacent channel isolation. For the remaining ports, it is called the non-adjacent channel isolation.

**Q: How long is the WDM Mux Demux warranty?**

**A:** FS WDM Mux Demux provides a one-year warranty, and also offers a 30-day return or replacement service if you are not satisfied with the purchase. For more details, visit [FS Warranty](#) policy.



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