



# FRM220-CWMD

CWDM Mux/DeMux

The FRM220-CWMD Mux/DeMux are modular design cards that support ITU-T G.694.2 wavelengths between 1271nm to 1611nm in 20nm increments. The FRM220-CWMD modules are protocol and rate transparent allowing different services such as 10G Ethernet, 10GFC, STM-64, OC-192 to be transported across the same fiber link. The passive FRM220-CWMD Mux/DeMux modules are available in 4 and 8-Channel (wavelength) models, supporting a variety of wavelength combinations and port configurations. The small and compact size of the CWDM modules yields one of the highest port densities in the industry. A 2U high 19-module FRM220 chassis populated with modules can yield up to 120 channels of capacity. FRM220-CWMD modules are passive devices that require no external power. They can also be installed in an FRM220 powered chassis with a NMC management module<sup>1</sup> and can be managed using SmartView EMS device management software, third-party SNMP software, Telnet or a serial console port. The modules can be installed in any FRM220 chassis equipped with other FRM220 media converters and transponders to provide a multi-service platform capable of delivering Ethernet, TDM, Voice and other services across a CWDM fiber common link.

## // Features

- Full native mode performance
- Passive model requires no power
- Protocol transparent, no limitation
- Utilizes industry standard ITU CWDM wavelength
- Standard LC connectors
- Passive device that can be installed in a powered chassis for managed applications
- Integration with Transponder in FRM220 chassis for CWDM application

## // Specifications

Channel	4 or 8 channels
Standards	ITU-T G.694.2
Wavelength	1271 ~ 1611nm
Insertion Loss	4ch < 1.8dB, 8ch < 3.0dB
Return Loss	>45dB
Option	Upgrade port Wide 1310 ± 50 nm
Line Link	Single fiber or two fiber
Connector	LC / UPC
Dimension	4ch : 159.5 × 20.8 × 88mm (D×W×H) 8ch : 159.5 × 42.1 × 88mm (D×W×H)
Weight	4ch : 200g 8ch : 380g
Temperature	0 ~ 50°C (Operating) -40 ~ 70°C (Storage)
Humidity	0 ~95% (non-condensing)
Certification	CE, FCC

## // Application

Figure 1 :

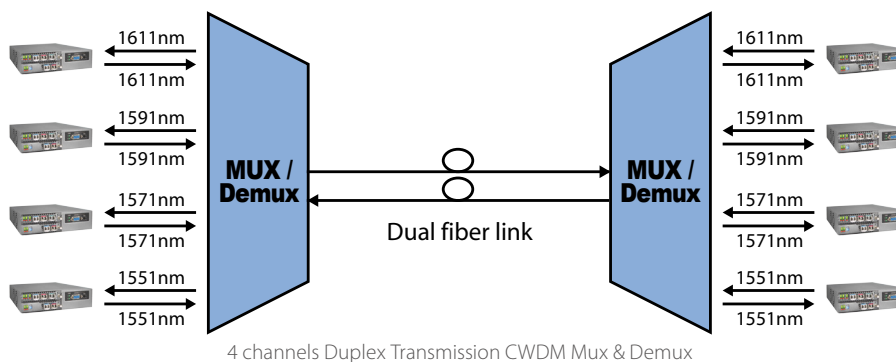
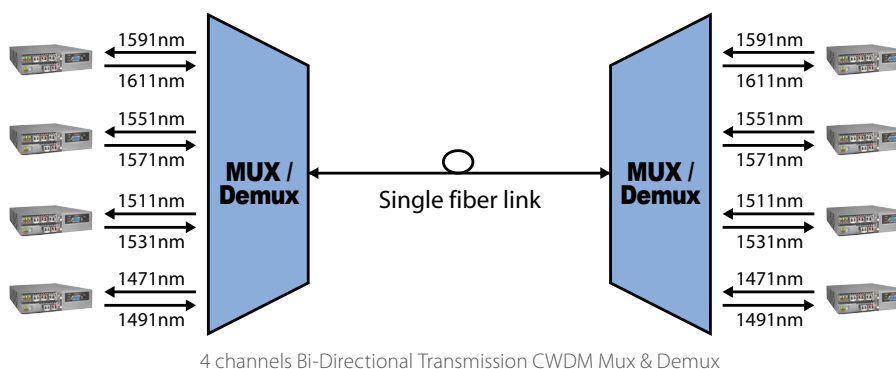


Figure 2 :



## // Ordering Information

Model Name	Description
<b>Dual Fiber CWDM Mux/Demux</b>	
FRM220-CWMD40-5157	4Ch TX/RX(1511, 1531, 1551, 1571nm), LC/UPC
FRM220-CWMD40-5561	4Ch TX/RX(1551, 1571, 1591, 1611nm), LC/UPC
FRM220-CWMD80-4761	8Ch TX/RX(1471 ~ 1611nm), LC/UPC
<b>Single Fiber CWDM Mux/Demux</b>	
FRM220-CWMD40A-4761	4Ch, TX(1471, 1511, 1551, 1591nm), RX(1491, 1531, 1571, 1611nm) type A, LC/UPC
FRM220-CWMD40B-4761	4Ch, TX(1491, 1531, 1571, 1611nm), RX(1471, 1511, 1551, 1591nm) type B, LC/UPC
FRM220-CWMD81A-2759	8ch, TX(1271,1311,1351,1431,1471,1511,1551,1591nm), RX(1291,1331,1411,1451,1491,1531,1571,1611 nm) type A, with monitor port, LC/UP
FRM220-CWMD81B-2961	8ch, TX(1291,1331,1411,1451,1491,1531,1571,1611nm), RX(1271,1311,1351,1431,1471,1511,1551,1591 nm) type B, with monitor port, LC/UPC