



# 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

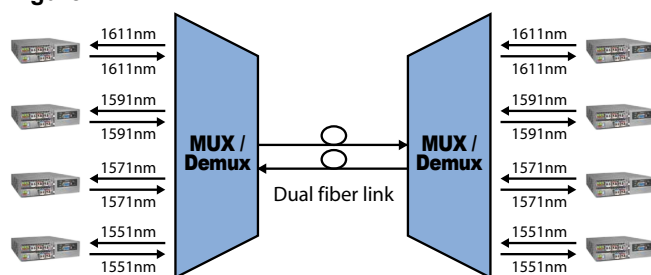
### Specifications

<b>Channel</b>	4 or 8 channels
<b>Standards</b>	ITU-T G.694.2
<b>Wavelength</b>	1271 ~ 1611nm
<b>Insertion Loss</b>	4ch < 1.8dB, 8ch < 3.0dB
<b>Return Loss</b>	>45dB
<b>Option</b>	Upgrade port Wide 1310 ± 50 nm
<b>Line Link</b>	Single fiber or two fiber
<b>Connector</b>	LC / UPC

<b>Dimension</b>	4ch : 159.5 × 20.8 × 88mm (D × W × H) 8ch : 159.5 × 42.1 × 88mm (D × W × H)
<b>Weight</b>	4ch : 200g 8ch : 380g
<b>Temperature</b>	0 ~ 50°C (Operating) -40 ~ 70°C (Storage)
<b>Humidity</b>	0 ~95% (non-condensing)
<b>Certification</b>	CE, FCC

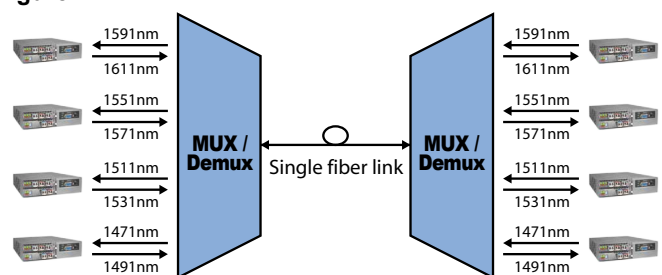
### Application

Figure 1 :



4 channels Duplex Transmission CWDM Mux & Demux

Figure 2 :



4 channels Bi-Directional Transmission CWDM Mux & Demux

### Related Products



**CWMD-180** (18 ch Dual Fiber CWDM Fiber Mux / DeMux. (Rackmount))



**CWMD-80 & CWMD-40** (8/4 ch Single Fiber CWDM Fiber Mux / DeMux. (Standalone))

## 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(1291,1331,1411,1451,1491,1531,1571,1611nm) type A, with monitor port, LC/UPC
FRM220-CWMD81B-2961	8ch, TX(1291,1331,1411,1451,1491,1531,1571,1611nm), RX(1271,1311,1351,1431,1471,1511,1551,1591nm) type B, with monitor port, LC/UPC