FRM220-CWDM

CWDM Mux/DeMux

The FRM220-CWDM Mux/DeMux are modular design cards that support ITU-T G.694.2 wavelengths between 1271nm to 1611nm in 20nm increments. The FRM220-CWDM 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-CWDM Mux/DeMux modules are available in 4,8 and 16-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-CWDM modules are passive devices that require no external power. They can also be installed in an FRM220 powered chassis with a NMC management module[1] 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, 8 or 16 channels	Dimension	4ch : 155x 23 x88 mm (D x W x H)
Standards	ITU-T G.694.2		8/16ch : 155x 42 x88 mm (D x W x H)
Wavelength	1271 ~ 1611nm	Weight	4ch : 200g
Insertion Loss	4ch < 1.8dB, 8ch < 2.8dB, 16ch < 3.6dB		8/16ch : 380g
Return Loss	>45dB	Temperature	0 ~ 50℃ (Operating)
Option	Upgrade port		-40 ~ 70℃ (Storage)
	Wide 1310 ± 50 nm	Humidity	0 ~95% (non-condensing)
Line Link	Single fiber or two fiber	Certification	CE, FCC
Connector	LC / UPC		

Ordering Information

Model Name	Description
FRM220-CWab-cde-xxxx	ab → DX : DeMux, MX : Mux, MD : Mux/DeMux
	c → 4 : 4ch, 8 : 8ch, H : 16ch
	d → 0 : no, 1 : Monitor port, 2 : 1x Upgrade Port
	e (only for MD Model) → A: Single Fiber A Type, B: Single Fiber B Type, Blank: Dual Fiber
	xxxx → Wavelength optional (1271~1611)

FRM220-CW ☐☐ **-** ☐☐ **-** ☐☐☐☐ •••• ● Wavelength (1271~1611) Optional

DX : DeMux
MX : Mux

Channel
4 : 4ch
8 : 8ch
H : 16ch

Monitor Port
0 : no
1 : Monitor port

FRM220-CW ☐☐ **-** ☐☐☐ **-** ☐☐☐☐ •••• ● Wavelength (1271~1611) Optional

MD : Mux/DeMux

Channel
4 : 4ch
8 : 8ch

Monitor Port
0 : no
1 : Monitor port

Type
A : Single Fiber A Type
B : Single Fiber B Type
Blank : Dual Fiber

Order Code -Wavelength (Please ✓select all the apply from below list)

| ☐ **A** 1271 | ☐ **B** 1291 | ☐ **C** 1311 | ☐ **D** 1331 | ☐ **E** 1351 | ☐ **F** 1371 | ☐ **G** 1431 | ☐ **H** 1451 |
| ☐ **I** 1471 | ☐ **J** 1491 | ☐ **K** 1511 | ☐ **L** 1531 | ☐ **M** 1551 | ☐ **N** 1571 | ☐ **O** 1591 | ☐ **P** 1611 |

☐ **Z** All Wavelength(1271-1611, without1391, 1411)

☐ **Q** 1391   ☐ **R** 1411 (Water peak wavelength)

Example:

4ch : FRM220 - CW <u>D</u> <u>X</u> – <u>4</u> <u>0</u> – <u>A</u> <u>B</u> <u>C</u> <u>D</u>

↳ (CWDM, DeMux, 4ch, 1271, 1291, 1311, 1331 Wavelength)

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16ch : FRM220 - CW <u>M</u> <u>X</u> – <u>H</u> <u>1</u> – <u>Z</u>

↳ (CWDM, Mux, 16ch, Monitor port, 1271 - 1611 Wavelength)

FRM220 - CW ☐☐ – ☐☐ – ☐

4ch : FRM220 - CW <u>M</u> <u>D</u> – <u>4</u> <u>1</u> – <u>A</u> <u>B</u> <u>C</u> <u>D</u>

↳ (CWDM, Mux/DeMux, 4ch, Monitor port, Dual Fiber, 1271, 1291, 1311, 1331 Wavelength)

FRM220 - CW ☐☐ – ☐☐ – ☐☐☐☐

8ch : FRM220 - CW <u>M</u> <u>D</u> – <u>8</u> <u>0</u> – <u>A</u> <u>B</u> <u>C</u> <u>D</u> <u>E</u> <u>F</u> <u>G</u> <u>H</u>

↳ (CWDM, DeMux, 8ch, Single Fiber A Type, 1271, 1291, 1311, 1331, 1471, 1491, 1511, 1531 Wavelength)

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Description