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

Specifications & design are subject to change without prior notice. Please visit CTC Union website for more details.

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

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CWDM Mux/DeMux