



FRM220-16G-3R

16G 3R Multi-rate Transponder

The FRM220-16G-3R has 4 SFP+ slots that can be configured as a dual channel 16G 3R multi-rate transponder or in a 1-to-2 port protection mode. The device provides a flexible transmission of various protocols, such as 1G/10G Ethernet, SDH STM16/STM64, OTU1/OTU1e/OTU2/OTU2e, Fiber Channel 1/2/4/8/10/16, ODU, OBSAI, CPRI, etc. Using SFP+ ports with dedicated CWDM or DWDM wavelengths, the 16G transponder supports multi-rate functionality with optical data rates from 1Gbps up to 14Gbps. With its functionality the FRM220-16G-3R transponder is also suitable as a repeater for transmission over extended distances. In addition, the use of state of the art components greatly reduces the power requirements and heat dissipation factors over our previous transponders.

Feature

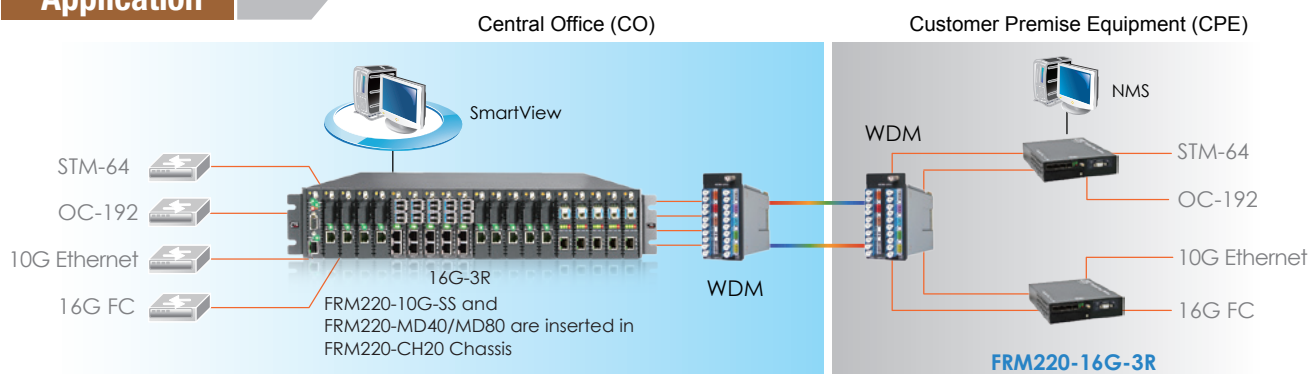
- Multi-rate supports 1Gbps ~ 14Gbps
- Protocol Transparent 3R fiber Media Transponder / Repeater
- Supports 1+1 Optical Line Protection
- Supports 2 channels with different bit rate.
- Supports Loopback Test.
- SFP DDM Information
- Firmware Upgrade
- Setting from DIP Switch, Console, NMC
- Supports FRM220 -CH01M, CH02M, CH04A, CH08, CH20
- FRM220-CH20, Full Load (19 Slots)

Specifications

Optical Interface	Connector	LC (SFP+, SFP)
	Wavelength	CWDM 1271 ~ 1611nm DWDM 1529.5~1565.50nm
Operation mode	Dual channel mode : Ch 1 SFP1 line / SFP2 client. Ch2 SFP3 line/ SFP4 client. Protection mode : SFP1 line / SFP2, SFP3 client	
Protocol	SONET	OC-24, OC-48, OC-192
	SDH	STM-16, STM-64
	Ethernet	1G, 2.5G, 10G
	OTU	OTU1, OTU1e, OTU2, OTU2e
	ODU	ODU1, ODU1e, ODU2, ODU2e
	OBSAI	OBSAI x1, x2, x4, x8
	CPRI	CPRI x1, x2, x4, x5, x8, x10, x16
	Fiber Channel	1/ 2/4/8/10/16 GFC
Regeneration	Re-Amplification, Re-Shaping, Re-Timing	

Indication	LED	Power, System, Mode, Test, FX1 Link, FX2 Link, FX3 Link, FX4 Link
Power	Input	12V / 1A
	Power Consumption	< 8W
Size	Dimensions	Card: 155 x 20.8 x 88mm (D x W x H)
	Weight	150g
Environment	Operating Temperature	0 ~ 50°C
	Storage Temperature	-10 ~ 70°C
	Humidity	10 ~ 90%
	Certification	CE, FCC
	MTBF	65000 hrs

Application



Ordering Information

Model Name	Description
FRM220-16G-3R	2 Channels 16Gbps 3R multi-rate transponder (optional SFP+)

Accessories

10G SFP+ Transceiver Module

SFM-1000-SR85	10G SFP+ SR/SW MMF 300m, 850nm VCSEL, 10G Ethernet/FC/SDH/SONET
SFS-1010-LR31	10G SFP+ LR/LW SMF 10km, 1310nm DFB DML, 10G Ethernet/FC/SDH/SONET
SFS-1040-ER55	10G SFP+ ER/EW SMF 40km, 1550nm DFB EML, 10G Ethernet/FC/SDH/SONET
SFS-1080-ZR55	10G SFP+ ZR/EW SMF 80km, 1550nm DFB EML, 10G Ethernet/FC/SDH/SONET

Note: This card may be placed in CH02M, CH01M or CH04A chassis with fan. For SNMP management, place this card in CH02/NMC or CH04A Chassis.