FRM220-4G-3R

4G Transponder

4G 3R Multi-rate Transponder

The FRM220-4G-3R has 4 SFP slots that can be configured as a dual channel 4G 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 Ethernet, SDH STM-16, OC-24, OC48 , Fiber Channel 1/2/4, OBSAI, CPRI, etc. Using SFP ports with dedicated CWDM or DWDM wavelengths, the FRM220-4G-3R transponder supports multi-rate functionality with optical data rates from 1Gbps up to 4.25Gbps. With its functionality the FRM220-4G-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.
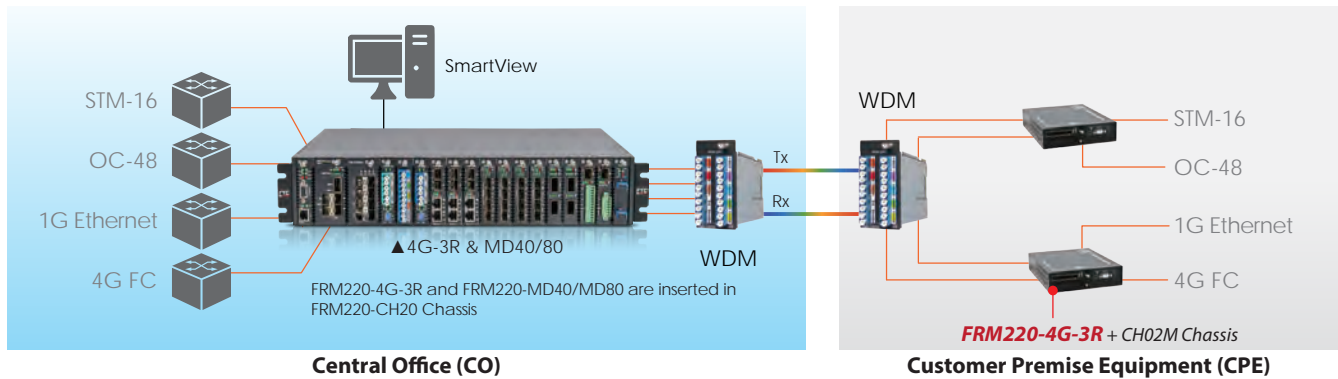
Features

- Multi-rate supports 1Gbps ~ 4.25Gbps
- Protocol Transparent 3R fiber Media Transponder / Repeater
- Supports 1+1 Optical Line Protection, switching time <50ms
- Supports 2 channels with different bit rate
- Supports Loopback Test
- SFP DDM Information
- Firmware Upgrade
- Setting from DIP Switch, Console, NMC
- Supports Auto Laser Shutdown (ALS)
- Supports LFPT function

Specifications

Optical Interface	Connector	LC (SFP)
	Wavelength	CWDM 1271 ~ 1611nm
		DWDM 1529.5 ~ 1565.50nm
Operation mode	Dual channel mode :	Ch 1 SFP1 line / SFP2 client Ch 2 SFP3 line / SFP4 client
	Protection mode : SFP1 line / SFP2, SFP3 client	
Protocol	SONET	OC-12, OC-24, OC-48
	SDH	STM-4, STM-16
	Ethernet	1G
	OBSAI	OBSAI × 1, × 2, × 4
	CPRI	CPRI × 1, × 2, × 4, × 5
	Fiber Channel	1/ 2/4G FC
Regeneration	Re-Amplification, Re-Shaping, Re-Timing	
LEDs	Power, System, Mode, Test, FX1 Link, FX2 Link, FX3 Link, FX4 Link	
Power	Input	12V / 1A
	Power Consumption	< 8W
Size	Dimensions	159.5 × 20.8 × 88mm (D×W×H)
	Weight	150g
Environment	Operating Temperature	0 ~ 50°C
	Storage Temperature	-10 ~ 70°C
	Humidity	10 ~ 90%
	Certification	CE, FCC
	MTBF	65000 hrs

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Application

4G-3R CWDM P to P application

Central Office (CO)

▲4G-3R & MD40/80

FRM220-4G-3R and FRM220-MD40/MD80 are inserted in FRM220-CH20 Chassis

Customer Premise Equipment (CPE)

FRM220-4G-3R + CH02M Chassis

Ordering Information

Model Name	Description
FRM220-4G-3R	2 Channels 4Gbps 3R Multi-rate transponder card (optional SFP)

■ Chassis Option

Model Name	Description
FRM220-CH20(HS)	2U 19", 20 slots rack mount chassis with high speed cooling fan and rack mounting kit
FRM220-AC	Chassis Power module 100~240 VAC, IEC connector, 200W
FRM220-DC48	Chassis Power module 36~60 VDC, 3 pin terminal block, 200W
FRM220-CH02M-AC/DC/AD	2-slot chassis with console port and AC or DC power, with fan
FRM220-CH04A-AC/DC/AD	2-slot chassis with fan, managed via optional NMC card and with AC, DC or AD power
FRM220-CH02/SMT-AC/DC/AD	2-slot chassis with fan, managed via optional NMC card and with AC, DC or AD power plus fan/power alarm detection