



# 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.

### Features

- Multi-rate supports 1Gbps ~ 14Gbps
- 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 FRM220 -CH01M, CH02M, CH04A, CH08, CH20
- FRM220-CH20, Full Load (19 Slots)

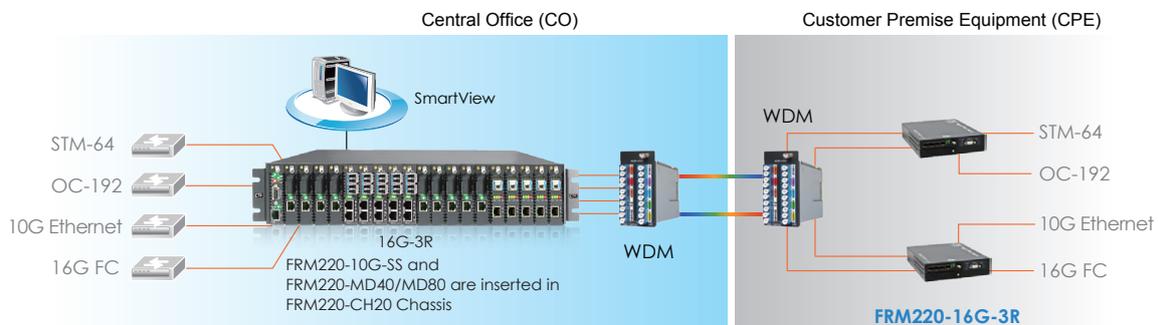
### Specifications

<b>Optical Interface</b>	Connector	LC (SFP+, SFP)
	Wavelength	CWDM 1271 ~ 1611nm DWDM 1529.5~1565.50nm
<b>Operation mode</b>	Dual channel mode : Ch 1 SFP1 line / SFP2 client. Ch2 SFP3 line/ SFP4 client.	
	Protection mode : SFP1 line / SFP2, SFP3 client	
<b>Protocol</b>	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

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

### Application

#### 16G-3R CWDM P to P application



-Related Products: FRM220-40G-1Q4S/10G-FEC/10G-SXX/10G-SS/2.7G-3S (40G, 10G FEC, 10G and 2.7G 3R Transponder)

### Ordering Information

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

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