



# FRM220-4G-3R

## 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

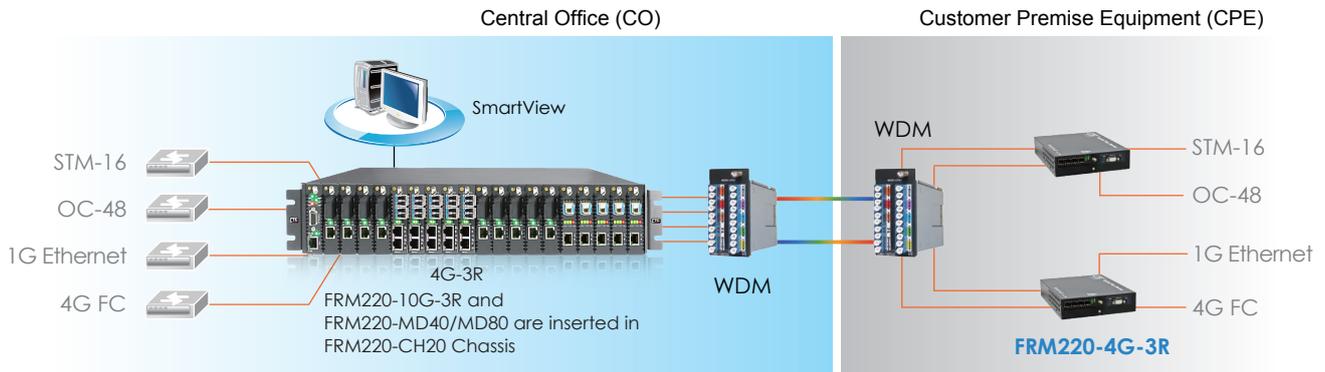
### Specifications

<b>Optical Interface</b>	Connector	LC (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-12, OC-24, OC-48
	SDH	STM-4, STM-16
	Ethernet	1G
	OBSAI	OBSAI x1, x2, x4
	CPRI	CPRI x1, x2, x4, x5
	Fiber Channel	1/ 2/4G FC
	SDI/Other	HD-SDI, 3G-SDI
<b>Regeneration</b>	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

#### 4G-3R CWDM P to P application



-Related Products: FRM220-40G-2Q/1Q4S/10G-3R/4G-3R/MP7G1X (40G, 10G and 4G 3R Transponder/Muxponder)

### Ordering Information

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

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