

## 4G 2R Transponder with Fiber Protection

# FRM220-4G-3S



The FRM220-4G-3S is a 2R 4G optical regeneration device, which consists of Re-amplification and Re-shaping. The transponder card converts a data signal to the correct wavelength for transmission on a specific channel by supporting SFP optics on both line side and client side interfaces. 1+1 Automatic optical line Protection Switching are supported for the aggregate fiber ports. When the FRM220-4G-3S card is placed in the FRM220 rack with SNMP management, the management can view the converter card's status, type, version, fiber link status and alarms. The card can be configured to enable or disable the port, reset the port and set the desired data rate.

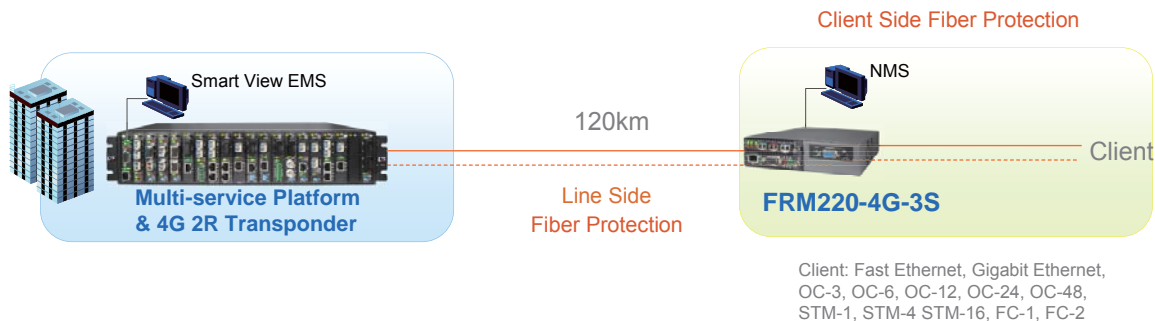
### Features

- Multiple protocol supported at bit rates 1.5Mbps to 4Gbps (Fast Ethernet, Gigabit Ethernet, OC-3, OC-6, OC-12, OC-24, OC-48, STM-1, STM-4 STM-16, FC-1, FC-2, FC-4)
- Network management via Web, Telnet, SNMP in central FRM220 chassis
- Local configuration via DB9 craft port In Stand-alone
- Digital Diagnostic monitoring of SFP module
- Perform optical repeater function (Re-amplification, Re-shaping)  
Facility loopback on both Client / Line sides
- 1+1 Optic fiber protection
- Link Fault Pass through (LFP)
- Auto Laser Shutdown (ALS)
- Detect fiber transmitter error Alarm

### Optical Interface

Connector	SFP LC
Data rate	1.5M to 4Gbps
Regeneration	Re-amplification Re-shaping
Loop back	Line/Client
Fiber	MM 62.2/125µm, 50/125µm. SM 9/125µm
Wavelength	MM 850, 1310nm SM 1310, 1550nm WDM 1310T/1550R, 1550T/1310R CWDM 1470 ~ 1610nm
Indications	LED (PWR, Line Link, Client Link, Test, Loop back, Port Active, Alarm)
Power Input	Card : 12VDC , Standalone : AC,DC option
Power Consumption	< 10W
Dimensions	155 x 88 x 23mm ( D x W x H)
Weight	120g
Temperature	0 ~ 50°C (Operating), -10 ~ 70°C (Storage)
Humidity	10~90% non-condensing
Certification	CE, FCC, LVD, RoHS
MTBF	65,000 hrs (25°C)

## Managed 4G 2R Transponder with Fiber Protection



### Ordering Information

- FRM220-4G-3S : 4G 2R Transponder with optic fiber protection
- Smart View Element Management System (EMS)
- SV-PLF-05 (5, 25, 50): Platform Server (5, 25, 50 admissions)
- SV-AGT-50 (50,100,200,500): Device Agent (50, 100, 200, 500 Devices)
- SV-Fiber: FRM220 Managed Module



## 4G 2R Transponder FRM220-4G-2S

The FRM220-4G-2S is a 4G 2R optical regeneration device, which consists of Re-amplification and Re-shaping. The transponder card converts a data signal to the correct wavelength for transmission on a specific channel by supporting SFP optics on both line side and client side interfaces. When the FRM220-4G-2S card is placed in the FRM220 rack with SNMP management, the management can view the converter card's status, type, version, fiber link status and alarms. The card can be configured to enable or disable the port, reset the port and set the desired data rate.

### Features

- Multiple protocol supported at bit rates 1.5Mbps to 4Gbps (Fast Ethernet, Gigabit Ethernet, OC-3, OC-6, OC-12, OC-24, OC-48, STM-1, STM-4 STM-16, FC-1, FC-2, FC-4)
- Network management via Web, Telnet, SNMP in central FRM220 chassis
- Local configuration via DB9 craft port In Stand-alone
- Digital Diagnostic monitoring of SFP module
- Perform optical repeater function (Re-amplification, Re-shaping)
- Facility loopback on both Client / Line sides
- Link Fault Pass through (LFP)
- Auto Laser Shutdown (ALS)
- Detect fiber transmitter error Alarm

### Optical Interface

Connector	SFP LC
Data rate	1.5Mbps ~ 4Gbps
Duplex mode	Full duplex
Fiber	MM 50/125μm, 62.5/125μm. SM 9/125μm
Distance	MM 2km, SM 15/30/50/80/120km, WDM 20/40/60/80km
Wavelength	MM 1310nm, SM 1310,1550nm WDM 1310Tx/1550Rx (type A) 1550Tx/1310Rx (type B) CWDM 1470 ~ 1610nm

### Indications

LED (PWR, Line Link, Client Link, Test, Loop back, Port Active, Alarm)

### Power Input

Card : 12VDC  
Standalone : AC, DC options

### Power Consumption

< 12W

### Dimension

155 x 88 x 23mm (D x W x H)

### Weight

120g

### Temperature

0 ~ 50°C (Operating), -10 ~ 70°C (Storage)

### Humidity

10 ~ 90% non-condensing

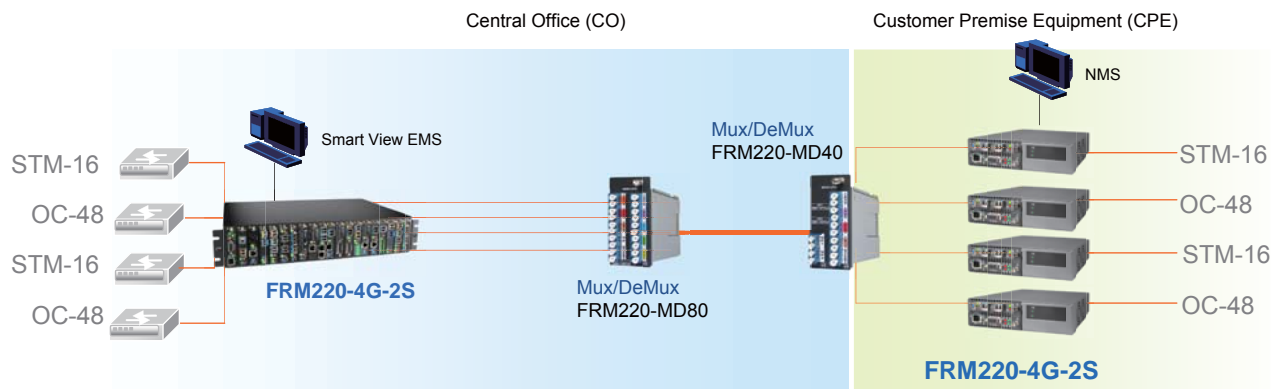
### Certification

CE, FCC, LVD, RoHS

### MTBF

65,000 hrs (25°C)

### Managed 4G 2R Transponder



FRM220-4G-2S can be inserted in CH02M, CH02N and CH20 Chassis.

### Ordering Information

FRM220-4G-2S: 4G 2R Transponder

Smart View Element Management System (EMS)

SV-PLF-05 (5, 25, 50): Platform Server (5, 25, 50 admissions)

SV-AGT-50 (50,100,200,500): Device Agent (50, 100, 200, 500 Devices)

SV-Fiber: FRM220 Managed Module