

10G 3R Transponder

FRM220-10G



The FRM220-10G is a series of managed 10G fiber to fiber 3R repeater and transponders. Based on a number of 10 Gigabit Fiber standards, these transponders support XFP to XFP (XX), SFP+ to XFP (SX), or SFP+ to SFP+ (SS) fiber connections. The transponders are protocol transparent, providing 3R (Re-amplification, Re-shaping and Re-clocking) regeneration between these different optical module types. One of the major applications for this converter is in connecting proprietary transceiver equipment to CWDM or DWDM when these 'colored' optical modules are not available for the proprietary equipment. With full duplex wire speed forwarding capability between the 2 fiber media, the FRM220-10G brings you the best and simplest solution for your 10G conversion between fiber and fiber.

Features

- Multiple protocol supported 10G Ethernet, 10G FC, STM-64, OC-192
- Network management via Web, Telnet, SNMP in central FRM220-CH20 chassis
- Protocol transparent 3R fiber media transponder / repeater (Re-amplification, Re-shaping and Re-clocking)
- Promotes flexibility and eases management with pluggable SFP+ or XFP transceiver
- Features two 10G ports offering multiservice 10G transponder and regenerator function
- Provides superior optics capabilities resulting in extended transport distances for regional application.
- Extend 10G Ethernet transmission over fiber
- Useful as a 'Transponder' in CWDM or DWDM systems for 10G Ethernet/Fiber Channel/STM-64
- Supports Client / Line loop back tests
- Serial console for stand-alone management When inserted in CH02M Single Slot Chassis

Optical Interface

Connector FRM220-10G-SS
 LC, 1x Line SFP to 1x Client SFP+
 FRM220-10G-XX
 LC, 1x Line XFP to 1x Client XFP
 FRM220-10GSX
 LC, 1x Line SFP+ to 1x Client XFP

Traffic Format OC-192/STM-64
 10 Gigabit Ethernet LAN
 10G FC (10.51875G)
 OTN G.709;
 OTU2 (10.709225G)

Regeneration Re-amplification
 Re-shaping
 Re-timing

Loopback Line / Client

Fiber SM 9/125um

Wavelength CWDM 1470 ~ 1610nm
 DWDM 1529.55 ~ 1565.50nm

Indications

LED (Power, 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

150g

Temperature

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

Humidity

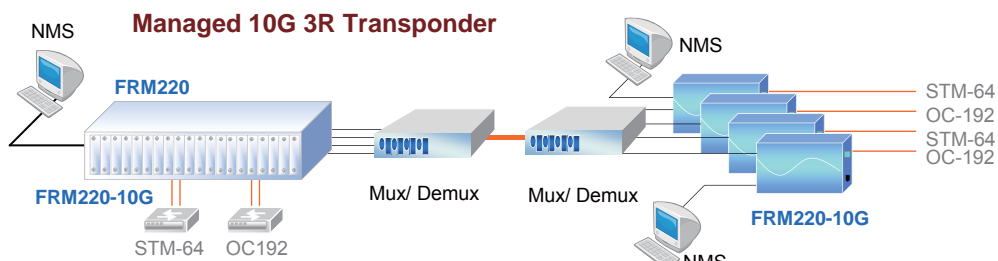
10 ~90% non-condensing

Certification

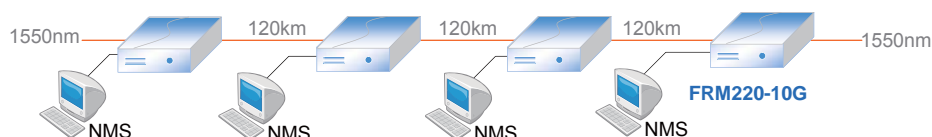
CE, FCC, LVD, RoHS

MTBF

65,000 hrs (25°C)



10G 3R Repeater



FRM220-10G can be inserted in CH02M, CH02N and CH20 chassis.

Ordering Information

FRM220-□□□□□ Optional card
 10G-SS
 10G-SX

Example: FRM220-10G-SS



2.7G 3R Transponder FRM220-2.7G-2S

The FRM220-2.7G-2S is a 2.7G 3R optical regeneration device, which consists of Re-amplification, Re-shaping and Re-timing. 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 FRM220-2.7G-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 28Mbps to 2.7Gbps (Fast Ethernet, Gigabit Ethernet, OC-3, OC-6, OC-12, OC-24, OC-48, STM-1, STM-4 STM-16, FC-1, FC-2)
- Network management via Web, Telnet, SNMP in central FRM220-CH20 chassis
- Local configuration via DB9 craft port In Stand-alone
- Digital Diagnostic monitoring of SFP module
- Perform optical repeater function (Re-amplification, Re-shaping, and Re-clocking)
- Facility loopback on both Client / Line sides
- Link Fault Pass through (LFP)
- Auto Laser Shutdown (ALS)
- Dip Switch setting data rate
- Detect fiber transmitter error Alarm

Optical Interface

Connector	SFP LC
Data rate	28M to 2.7Gbps
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

< 5W

Dimension

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

Weight

120g

Temperature

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

Humidity

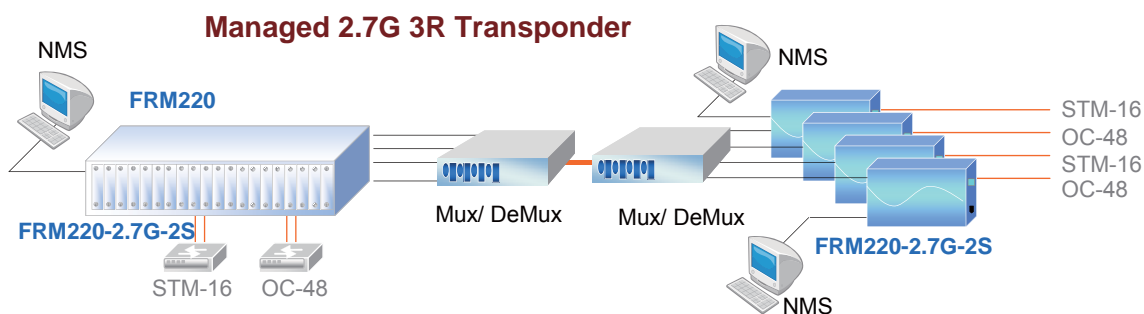
10 ~ 90% non-condensing

Certification

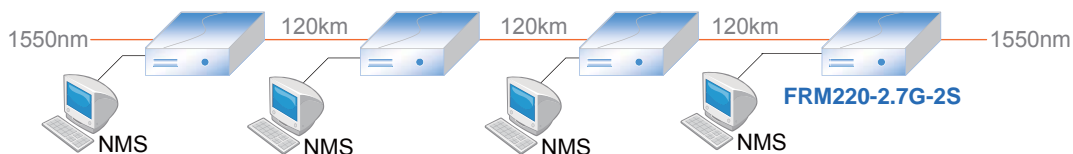
CE, FCC, LVD, RoHS

MTBF

65,000 hrs (25°C)



2.7G 3R Repeater



FRM220-2.7G-2S can be inserted in CH02M, CH02N and CH20 chassis.

Ordering Information

FRM220-□□□□□ Optional card
2.7G-2S

Example: FRM220-2.7G-2S