



FRM220-4G-3S

4G 2R Multi-rate Transponder with Optical Line Protection

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 is 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 perform diagnostic loop backs.

Feature

- Multi-rate supports 28Mbps to 4.25Gbps
- Network management via Web, Telnet, SNMP in central FRM220 chassis
- Local configuration via DB9 console port (when placed in CH01M or CH02M)
- 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 (LFPT)
- Auto Laser Shutdown (ALS)
- Detect transceiver transmitter error alarm

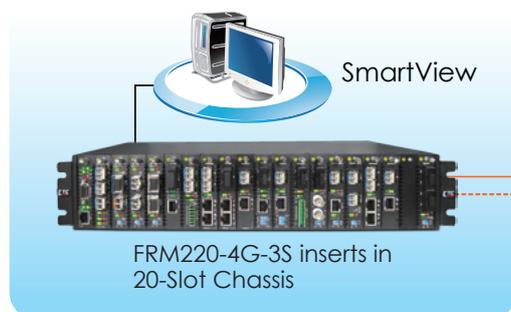
Specifications

Optical Interface	Connector	SFP LC
	Protocol	OC -3, OC -6, OC -12, STM-1, STM-4, STM-16, FC -1, FC -2, FC -4
	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	12VDC	
Power Consumption	< 12W	

Dimensions	Card: 155 x 20.8 x 88mm (D x W x H)
Weight	120g
Temperature	0 ~ 50°C (Operating), -10 ~ 70°C (Storage)
Humidity	10 ~ 90% non-condensing
Certification	CE, FCC
MTBF	65,000 hrs

Application

Managed 4G 2R Transponder with Fiber Protection



1+1 Fiber Protection



Protocols: Fast Ethernet, Gigabit Ethernet, OC-3, OC-6, OC-12, STM-1, STM-4, STM-16, FC-1, FC-2

Ordering Information

Model Name	Description
FRM220-4G-3S	4G 2R Transponder with fiber protection, (optional SFP module)

Accessories

Multi-Mode 1.25Gbps SFP

SFM-7000-S85	1.25G SX, MM, 550m, 850nm, 8.5dB, 3.3V, LC
SFM-7000-S85-DD	1.25G SX, MM, 550m, 850nm, 8.5dB, 3.3V, LC, DD
SFM-7000-L31	1.25G LX, MM, 2km, 1310nm, 10dB, 3.3V, LC
SFM-7000-L31-DD	1.25G LX, MM, 2km, 1310nm, 10dB, 3.3V, LC, DD

Single-Mode 1.25Gbps SFP

SFS-7020-L31	1.25G LX, SM, 20km, 1310nm, 15dB, 3.3V, LC
SFS-7020-L31-DD	1.25G LX, SM, 20km, 1310nm, 15dB, 3.3V, LC, DD
SFS-7040-L31	1.25G LX, SM, 40km, 1310nm, 20dB, 3.3V, LC, DFB LD
SFS-7040-L31-DD	1.25G LX, SM, 40km, 1310nm, 20dB, 3.3V, LC, DFB LD, DD

Single Fiber 1.25Gbps SFP

SFS-7020-WA	1.25G WDM, 20km, Tx1310nm / Rx1550nm (A type), 3.3V, LC
SFS-7020-WA-DD	1.25G WDM, 20km, Tx1310nm / Rx1550nm (A type), 3.3V, LC, DD
SFS-7020-WB	1.25G WDM, 20km, Tx1550nm / Rx1310nm (B type), 3.3V, LC
SFS-7020-WB-DD	1.25G WDM, 20km, Tx1550nm / Rx1310nm (B type), 3.3V, LC, DD
SFS-7040-WA	1.25G WDM, 40km, Tx1310nm / Rx1550nm (A type), 3.3V, LC
SFS-7040-WA-DD	1.25G WDM, 40km, Tx1310nm / Rx1550nm (A type), 3.3V, LC, DD
SFS-7040-WB	1.25G WDM, 40km, Tx1550nm / Rx1310nm (B type), 3.3V, LC
SFS-7040-WB-DD	1.25G WDM, 40km, Tx1550nm / Rx1310nm (B type), 3.3V, LC, DD

Note: This card may be set by DIP switch and placed in CH02M chassis with fan, or set by serial console if placed in CH01M chassis