



FRM220-10G-SXX

10G 3R Multi-rate Transponder with Optical Line Protection

The FRM220-10G-SXX is a 10G fiber to fiber 3R repeater and transponder. Based on 10 Gigabit fiber standards, this transponder supports SFP+ to XFP (SX) or XFP to XFP (XX) fiber connections. 1+1 Automatic optical line Protection Switching is supported for the aggregate XFP fiber ports. The transponder is protocol transparent, providing 3R (Re-amplification, Re-shaping and Re-clocking) 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 transparent bi-directional forwarding capability between the 2 fiber media, the FRM220-10G-SXX brings you the best and simplest solution for your 10G conversion between fiber and fiber.

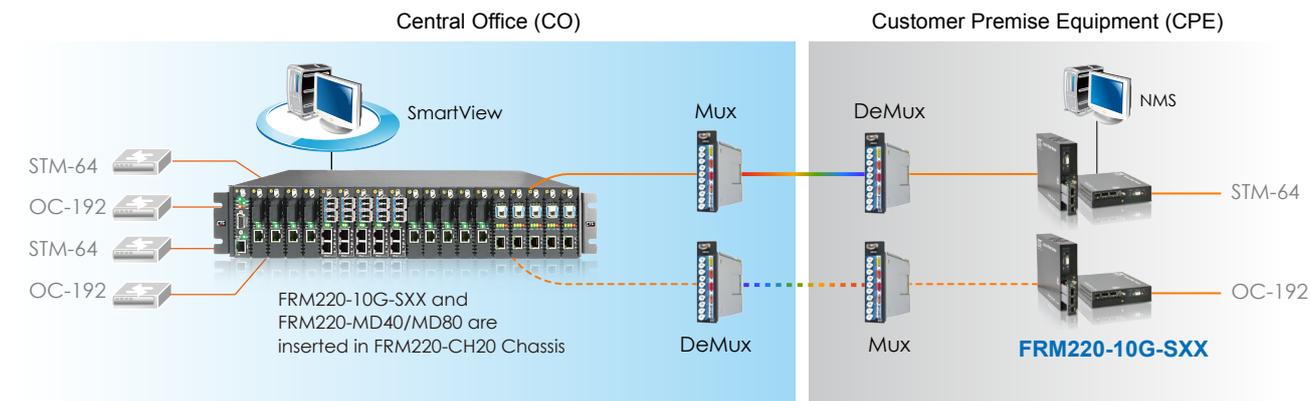
Feature

- Protocols Transparent at discrete bit rates of 8Gbps to 10Gbps
- Network management via Web, Telnet, SNMP in central FRM220-CH20 chassis (10 cards in chassis max.)
- 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
- Supports 1+1 optical line protection
- Built-in self test (BIST) 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 dual slot chassis
- XFP power supplies: +5.0V, -5.2V, +3.3V and +1.8V
- Supports reference clock output
- Supports 10G Tunable XFP module

Specifications

Optical Interface	Connector	LC
		1x Line SFP+ to 2x Client XFP
		1x Line SFP+ to 1x Client XFP
	Protocol	1x Line XFP to 1x Client XFP
		OC-192/STM-64 (9.95328Gbps)
		10 Gigabit Ethernet LAN(10.3125Gbps)
Regeneration	G.709 OTU2 (10.709225Gbps)	
	Fiber Channel	
	8x FC(8.5 Gbps)	
	10xFC(10 Gbps)	
	Re-amplification	
Power	Loopback	Line / Client
	Fiber	SM 9/125μm
		MM 50/125μm or 62.5/125μm
Wavelength	Depends on SFP+ or XFP	
Indications	LED (Power, 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	150g	
Temperature	0 ~ 50°C (Operating), -10 ~ 70°C (Storage)	
Humidity	10 ~ 90% non-condensing	
Certification	CE, FCC	
MTBF	65,000 hrs	

Application



Ordering Information

Model Name	Description
FRM220-10G-SXX	10G 3R SFP+ to XFP fiber protection (optional SFP+, XFP module)

Accessories

10G XFP Transceiver Module

XFM-1000-SR85	10G XFP SR/SW MMF 300m, 850nm VCSEL, Ethernet / Fiber Channel only
XFS-1010-LR31	10G XFP LR/LW SMF 10km, 1310nm DFB DML, Ethernet/Fiber Channel/SDH/SONET
XFS-1040-ER55	10G XFP ER/EW SMF 40km, 1550nm DFB EML, Ethernet/Fiber Channel/SDH/SONET
XFS-1080-ZR55	10G XFP ZR/ZW SMF 80km, 1550nm DFB EML APD, Ethernet/Fiber Channel/SDH/SONET

10G SFP+ Transceiver Module

SFM-1000-SR85	10G SFP+ SR/SW MMF 300m, 850nm VCSEL, 10G Ethernet/FC/SDH/SONET
SFS-1010-LR31	10G SFP+ LR/LW SMF 10km, 1310nm DFB DML, 10G Ethernet/FC/SDH/SONET
SFS-1040-ER55	10G SFP+ ER/EW SMF 40km, 1550nm DFB EML, 10G Ethernet/FC/SDH/SONET
SFS-1080-ZR55	10G SFP+ ZR/EW SMF 80km, 1550nm DFB EML, 10G Ethernet/FC/SDH/SONET

Note: This card may be placed in CH02M or CH04A chassis with fan.
For standalone SNMP management, place this card in CH02/NMC or CH04A chassis.