



## 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.

### Features

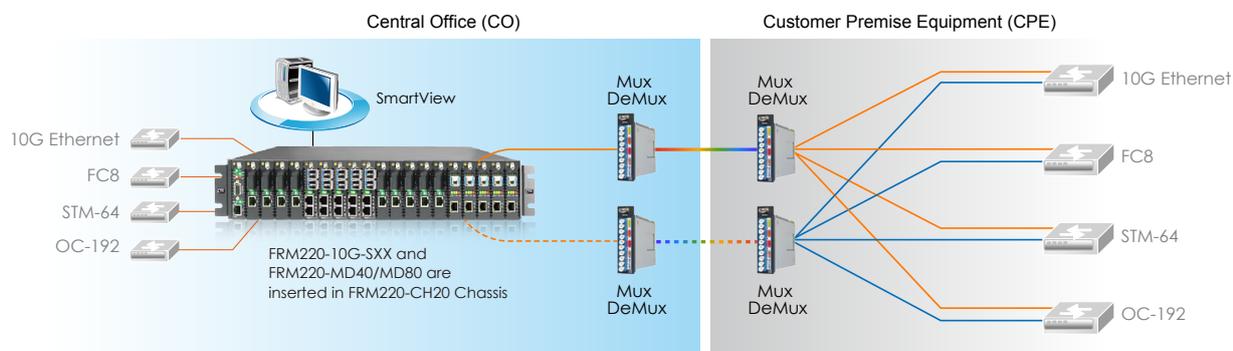
- Protocols Transparent at discrete bit rates of 8Gbps to 10Gbps
- Network management via Web, Telnet, SNMP in central FRM220-CH20 chassis (10 cards in chassis max.)
- Protocol transparent 3R fiber media transponder / repeater (Re-amplification, Re-shaping and Re-clocking)
- Promotes flexibility and 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, switching time < 50ms
- 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

<b>Optical Interface</b>	Connector	LC	<b>Power</b>	Fiber	MM 50/125µm or 62.5/125µm
	Protocol	1x Line SFP+ to 2x Client XFP 1x Line SFP+ to 1x Client XFP 1x Line XFP to 1x Client XFP		Wavelength	Depends on SFP+ or XFP
<b>Power</b>	Loopback	Line / Client	<b>Indications</b>	LED (Power, Line Link, Client Link, Test, Loop back, Port Active, Alarm)	
	Fiber	SM 9/125µm	<b>Power Input</b>	12VDC	
			<b>Power Consumption</b>	< 12W	
			<b>Dimensions</b>	Card: 155 x 20.8 x 88mm (D x W x H)	
			<b>Weight</b>	150g	
			<b>Temperature</b>	0 ~ 50°C (Operating), -10 ~ 70°C (Storage)	
			<b>Humidity</b>	10 ~ 90% non-condensing	
			<b>Certification</b>	CE, FCC	
			<b>MTBF</b>	65,000 hrs	

### Application

#### Managed 10G transponder with fiber protection application



-Related Products: FRM220-40G-1Q4S/16G-3R/10G-FEC/10G-SS/2.7G-3S (40G, 16G, 10G FEC/10G and 2.7G 3R Transponder)

### Ordering Information

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

### 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.