



# FRM220A-1000EAS/X

2x 10/100/1000Base-T and  
2x 100/1000Base-X SFP OAM/IP GbE  
Managed Switch

The FRM220A-1000EAS/X is an IEEE 802.3ah OAM compliant dual copper and dual fiber Gigabit Ethernet switch solution designed to make conversion between 10/100/1000Base-T(X) and 100/1000Base-X with SFP. With embedded SNMP and Web-based management, the network administrator can monitor, configure and control the activity of each IEEE 802.3ah series card and remotely connected OAM compliant converter. Based on a powerful L2 switch architecture, this converter supports bandwidth control, duplex and speed configuration, VLAN tagging, Q-in-Q, QoS, Spanning tree, jumbo frames as well as auto laser shutdown, link fault pass through, OAM loop back and dying gasp. This card may also be controlled and monitored via an NMC in a managed chassis.

## Feature

- 2-port 10/100/1000Base-T and 2-port 100/1000Base-X SFP
- Supports local / remote IEEE 802.3ah OAM / IP In-band management
- Standalone IP Based, Web GUI, Telnet, SNMP management
- Auto-Negotiation or forced mode
- Auto MDI/MDIX
- Supports IEEE 802.1Q Tagged and Port based VLAN
- Supports IEEE 802.1ad Q in Q double tagging
- Forward 10K bytes Jumbo packets (max.)
- Supports Flow control (Pause)
- Supports OAM remote loopback to assist in diagnosing network problems
- RADIUS Client
- Supports bandwidth control
- Supports remote CPE power fail detect (dying gasp)
- Supports Far End Fault Indication (FEFI)
- Supports Link Fault Pass-Through (LFPT)
- Supports RMON counter
- D/D function for supported SFP fiber transceiver
- Auto Laser Shutdown (ALS)
- Online local / remote f/w upgrade
- Fiber Redundant mode
- Spanning Tree Protocol
- Port Trunking
- Default port and 802.1p tag priority QoS
- Fixed or weighted priority QoS

## Specifications

<b>Optical Interface</b>	Connector	SFP LC
	Data rate	125/1250Mbps
	Duplex mode	Full duplex
	Fiber	MM 50/125µm, 62.5/125µm. SM 9/125µm
	Distance	MM 550m, 2km, SM 15/30/50/80/120km WDM 20/40/60km
Wavelength	MM	1310nm, SM 1310,1550nm
	WDM	1310Tx/1550Rx (type A)
		1550Tx/1310Rx (type B)
<b>Power Consumption</b>	< 12W	
<b>Dimensions</b>	Card: 155 x 20.8 x 88mm (DxWxH)	
<b>Weight</b>	130g	

<b>Electrical Interface</b>	Connector	RJ45	
	Data rate	10Mbps, 100Mbps, 1000Mbps	
	Duplex mode	Half / Full duplex	
	Cable	10Base-T	Cat.3, 4, 5, UTP
		100Base-TX	Cat.5, 5e or higher
	1000Base-T	Cat.5, 5e or higher	
<b>Standards</b>	IEEE 802.3, IEEE 802.3u, IEEE802.1Q, IEEE 802.3ah		
<b>Indications</b>	LED (Power, FX-Link, Test, TX-Link, TX-SPD)		
<b>Power Input</b>	12VDC		
<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		

## Ordering Information

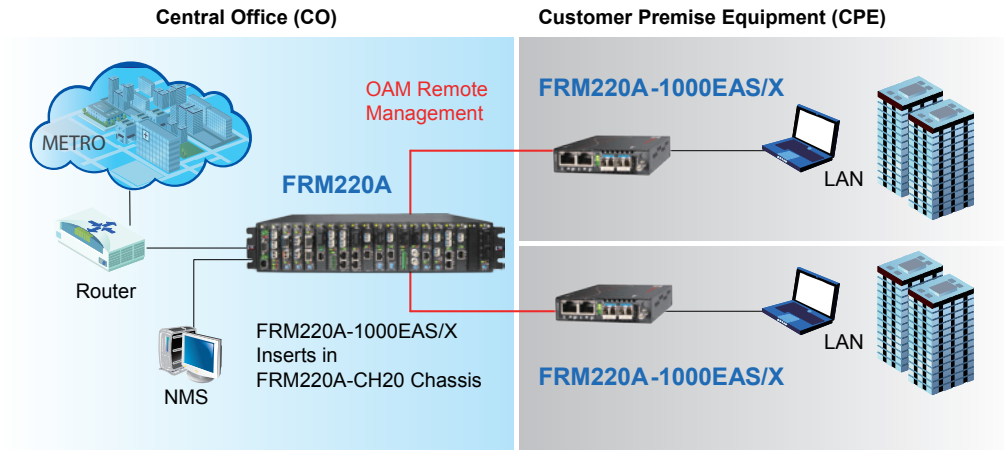
Model Name	Description
FRM220A-1000EAS/X	2-Port 10/100/1000Base-T and 2-Port 100/1000Base-X with OAM/IP management, (optional SFP)

**Note:** This card may use CH01M to provide console for initial TCP/IP settings, or use CH01 with default IP.

# OAM/IP GbE Management Switch

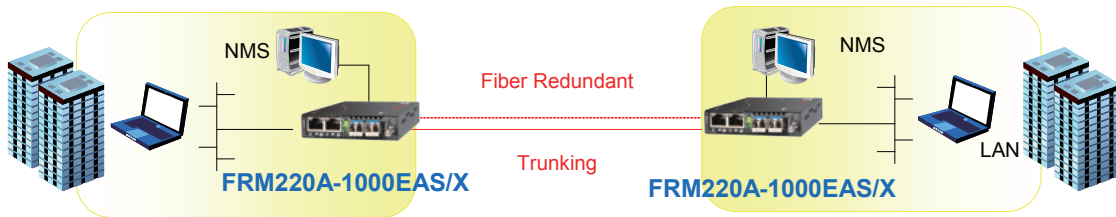
## FRM220A-1000EAS/X Application

In the Centrally managed application, the main chassis, all of its cards and all fiber connected remote CPE units can be provisioned and monitored from a single management point



## Fiber Redundant / Trunking Application

Utilizing a special trunking function, the 1000EAS/X can be deployed in stand-alone, point-to-point applications and provide 1+1 redundant fiber protection



## Fiber Ring Application

In the ring or mesh topology, Spanning Tree Protocol enables a highly resilient network based on multiple 1000EAS/X units

