FRM220A-2000EAS/1
FRM220A-2000EAS/2

1/2 × 10/100/1000Base-T + 1/2 × 100/1000Base-X SFP OAM/IP GbE Managed Switch

The FRM220A-2000EAS/1 and FRM220A-2000EAS/2 are OAM compliant Gigabit Ethernet switch designed to make conversion between 10/100/1000Base-T(X) + 100/1000Base-X SFP (2000EAS/1) and 2 × 10/100/1000Base-T(X) + 2 × 100/1000Base-X SFP (2000EAS/2).

With embedded SNMP and Web-based management, the administrator can monitor, configure and control the activity of each switch card both locally and remotely. Based on a powerful L2+ switch architecture, this switch 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 GSW/SNMP in a managed FRM220A chassis.

Features

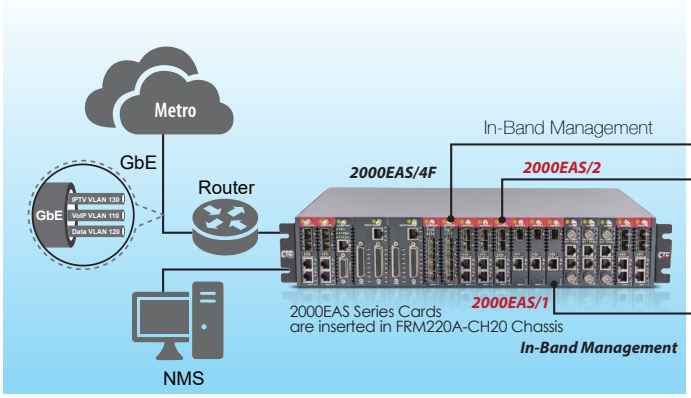
- 10/100/1000Base-T and 100/1000Base-X SFP (2000EAS/1)
- 2 × 10/100/1000Base-T and 2× 100/1000Base-X SFP (2000EAS/2)
- Standalone IP Based, Web GUI, Telnet, SNMP management
- Supports RMON counter
- Supports dying gasp
- D/D function for supported SFP fiber transceiver
- Supports Cisco® like CLI
- Online local / remote f/w upgrade
- Supports local / remote IEEE 802.3ah OAM / IP management
- Auto Laser Shutdown (ALS)

Specifications

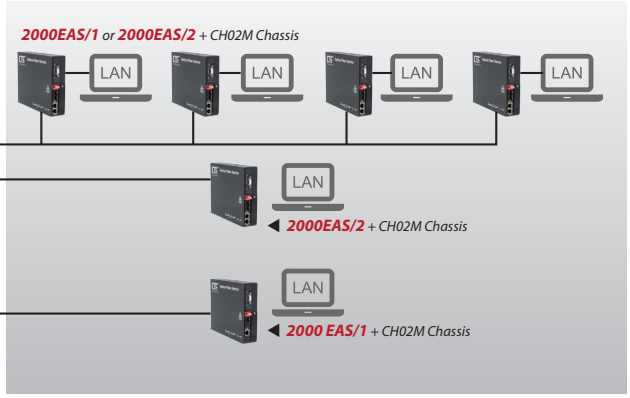
Optical Interface	Connector	SFP LC
	Data rate	125/1250Mbps
	Duplex mode	Full duplex
	Fiber	MM 50/125μm, 62.5/125μm
		SM 9/125μm
	Distance	MM 550m, 2km, SM 15/30/50/80/120km
		WDM 20/40/60km
	Wavelength	MM 1310nm, SM 1310,1550nm
		WDM 1310Tx/1550Rx (type A)
		1550Tx/1310Rx (type B)
LEDs	Power, FX-Link, Test, UTP-Link, UTP-SPD	
Transmission Method	Store and Forward Switching	
Standard	IEEE 802.3u, IEEE 802.3z, IEEE 802.3ah, IEEE 802.3x, IEEE 802.1p, IEEE 802.1Q	
	IEEE 802.1ad, IEEE 802.1D, IEEE 802.1w, IEEE 802.1s, IEEE 802.3ad	
Packet Buffer	4M bits	
MAC Table Size	8K	
Max. Packet Jumbo Frame Size	9600 Bytes	
VLAN Feature	IEEE 802.1Q tagged VLAN (Max. 4K VLAN groups), MAC based VLAN, Protocol based VLAN	
	Private VLAN for port isolation, IEEE 802.1ad Q-in-Q	
L2 Switching Protection	STP, RSTP, MSTP	

Trunking	IEEE 802.3ad LACP
QoS feature	IEEE 802.1p 8 priority queues per port, Port Default Priority, QoS Control List (QCL Mode)
	Port Ingress Shaping, Port egress shaper, Queue egress shapers, DiffServ (RFC2474) remarking
	Tag remarking, Scheduler mode
Security	ACL rule based filtering
Storm Control	Unknown Unicast/Broadcast/Multicast storm, suppression
Management	Web/Telnet CLI interface, Web/CLI authentication, SSH v2, HTTPs, Port mirroring
	System syslog, IPv4/IPv6 management, NTP, Text based CLI configuration upload or download
SNMP agent	SNMP v1/v2c/v3, RMON Group 1,2,3 and 9, Multiple trap destinations
Software upgrade	TFTP/HTTP
Power Consumption	8W
Power Input	12VDC
Temperature	0 ~ 50°C (Operating), -10 ~ 70°C (Storage)
Humidity	10 ~ 90% non-condensing
Certification	CE, FCC
Dimensions	159.5 × 20.8 × 88mm (D×W×H)
Weight	130g

Application



Central Office (CO)



Customer Premise Equipment (CPE)

Ordering Information

Model Name	Description
FRM220A-2000EAS/2	2 × 10/100/1000Base-T and 2 × 100/1000Base-X SFP-LC managed switch card (optional SFP module)
FRM220A-2000EAS/1	10/100/1000Base-T to 100/1000Base-X SFP-LC managed converter card (optional SFP module)

■ Chassis Option

Model Name	Description
FRM220-CH20(HS)	2U 19", 20 slots rack mount chassis with high speed cooling fan and rack mounting kit
FRM220-AC	Chassis Power module 100~240 VAC, IEC connector, 200W
FRM220-DC48	Chassis Power module 36~60 VDC, 3 pin terminal block, 200W
FRM220-CH02M-AC/DC/AD	2-slot chassis with console port and AC or DC power, with fan
FRM220-CH02/NMC-AC/DC/AD	2-slot chassis with fan, managed via optional NMC card and with AC, DC or AD power
FRM220-CH02/SMT-AC/DC/AD	2-slot chassis with fan, managed via optional NMC card and with AC, DC or AD power plus fan/power alarm detection