

FRM220-CH20

(In-Band Managed Multi-Service Platform)

FRM220A-CH20

(Ethernet Aggregation Platform)



The FRM220-CH20 and FRM220A-CH20 are 2U high 19" Rack, 20 Slot modular media converter chassis with redundant power and all hot swappable design. They provide an economic solution in high density fiber converter installations in enterprises or central offices. Particularly, FRM220A chassis supports an uplink Gigabyte Ethernet switch, for efficient scalability and easy deployment in access networks. All critical components, Power, fans, management module and interface cards are hot swappable, allowing online field replacement. The chassis also has a pair of alarm relays and are able to stack up to 10 chassis using only one management IP address. A number of cards are available that support different protocols including Ethernet, Voice, Data, transponders, FOM and IMUX.

Features

- 2U 19" 20-slot Chassis with AC/DC power redundancy
- Chassis cascade up to 10 with one IP management (FRM220-CH20 only)
- Chassis backplane consists of passive components
- All modules and cards support hot-swapping
- Two alarm relays
- E1 Inverse Multiplexers are supported by Gigabit Switch
- Chassis supports uplink Gigabit Ethernet switch 4-port 10/100/1000T plus 4-port 1000SX/LX SFP trunk card (FRM220A-CH20 only)

Chassis Overview

FRM220-CH20

(Front)



SNMP

Chassis cascade up to 10 with one IP management

Two Alarm Relays

(Rear)



Single or optional redundant power supplies

Thermal Fan (Hot swappable)

FRM220A-CH20

(Front)



Chassis supports uplink Gigabit Ethernet switch

Two Alarm Relays

(Rear)



Single or optional redundant power supplies

Thermal Fan (Hot swappable)

Specifications

Connectors :

- Console RS232(DB9)
- LAN 10/100 Base TX RJ45

Physical Specifications :

- Dimensions(W x D x H): 303mm x 438mm x 88mm
- Weight: 5.2kg w/o P/S

Power Characteristics :

- AC : 100 ~ 240VAC
- DC24 : 18 ~ 36VDC, DC48: 36 ~ 75VDC

Environmental Specifications :

- Operating 0°C ~ 60°C
- Storage -10°C ~ 70°C
- Relative humidity 5% ~ 90% non-condensing
- Predicted MTBF : 65,000 hrs

Certification :

- FCC class A, VCCI class A, CE, RoHS

Power Redundancy

Both chassis power supplies are hot swappable and modular. Installing two into a chassis provides redundancy should a single power supply fail. A fully loaded chassis can run continuously with only one power module fitted into the chassis.

Cooling Fan

To further increase system reliability, the FRM220-CH20 and FRM220A-CH20 chassis are fitted with two hot swappable fan modules. Both fan modules can be easily removed from the rear of the chassis, without interruption to the operation of the line cards. A fully loaded chassis can run continuously with only one fan module fitted into the chassis.

Chassis Cascade (FRM220-CH20 only) Figure 1

The FRM220-CH20 Chassis features cascadeable management which allows managing a stack (up to 10 chassis) from a single IP address. Chassis are interconnected with standard UTP cables that carry control signals. Each chassis has its own ID, starting with the master chassis ID0 and cascading up to ID9. Network management card (NMC) are still required in each chassis.

Protocol Support

The FRM220-CH20 or FRM220A-CH20 has been designed as a Multi-service platforms. This allows network administrators to deploy the chassis in a wide range of networks. Technologies supported by the chassis included Fast/Gigabit Ethernet, E1/T1, V35/X21/RS530, Serial RS485/422, Voice FXO/FXS, Repeater, Fiber Multiplexer, E1 Inverse Multiplexer (FRM220A-CH20 : Supports a Gigabit Ethernet trunk card)

Network Management (FRM220-CH20 only)

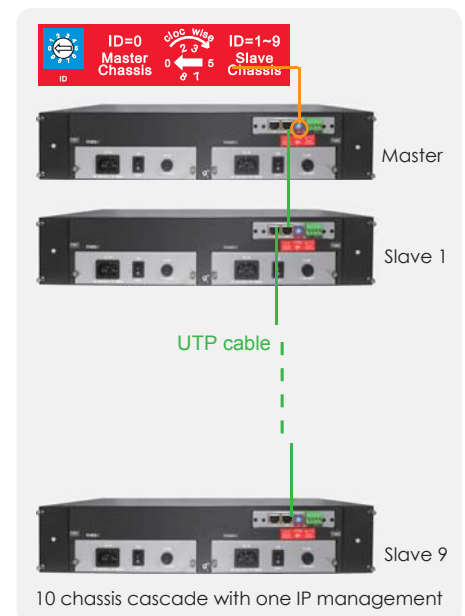
The FRM220-CH20 chassis requires an NMC (Network Management Controller) card which must be installed into the first slot of chassis. The NMC card allows a network administrator the ability to configure and monitor the status of the blades. Management can be achieved locally over RS232, or over the network by Telnet, Web or SNMP. If the blades support Ethernet in the First Mile (IEEE 802.3ah), then the management module can also configure and monitor the status of a remote CPE.

Gigabit Ethernet switch with Network Management (FRM220A-CH20 only)

The FRM220A-CH20 incorporates a 24+4 Gigabit Ethernet Switch. Twenty ports supply each slot of the 2U 20-slot chassis with an electrical gigabit Ethernet uplink with the remaining four electrical gigabit ports accessible via the rear of the chassis. The additional four ports are provided by SFP sockets.

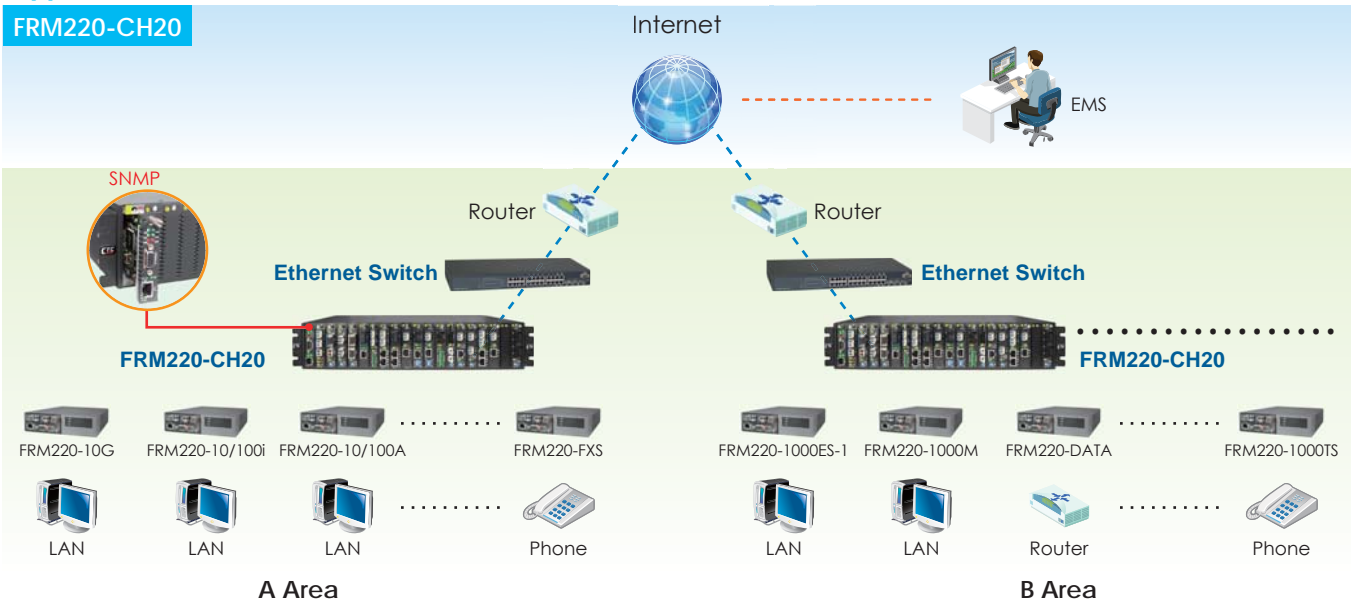
All eight gigabit ports (4+4) are usable without restrictions for uplink aggregation to an Ethernet Metropolitan Area Network (E-MAN). The FRM220A-GSW/SNMP card transmits Ethernet between the subscriber equipment (bridge/modem or network interface card) and the E-MAN. The card provides a user-networking interface with Ethernet packets. This card is capable of providing high bandwidth for assembling Ethernet traffic. The FRM220A-GSW/SNMP card is not only the system aggregate/trunk module, but also the system's control module, providing OAM / IP Management function.

(Figure 1)
FRM220-CH20 Chassis cascade

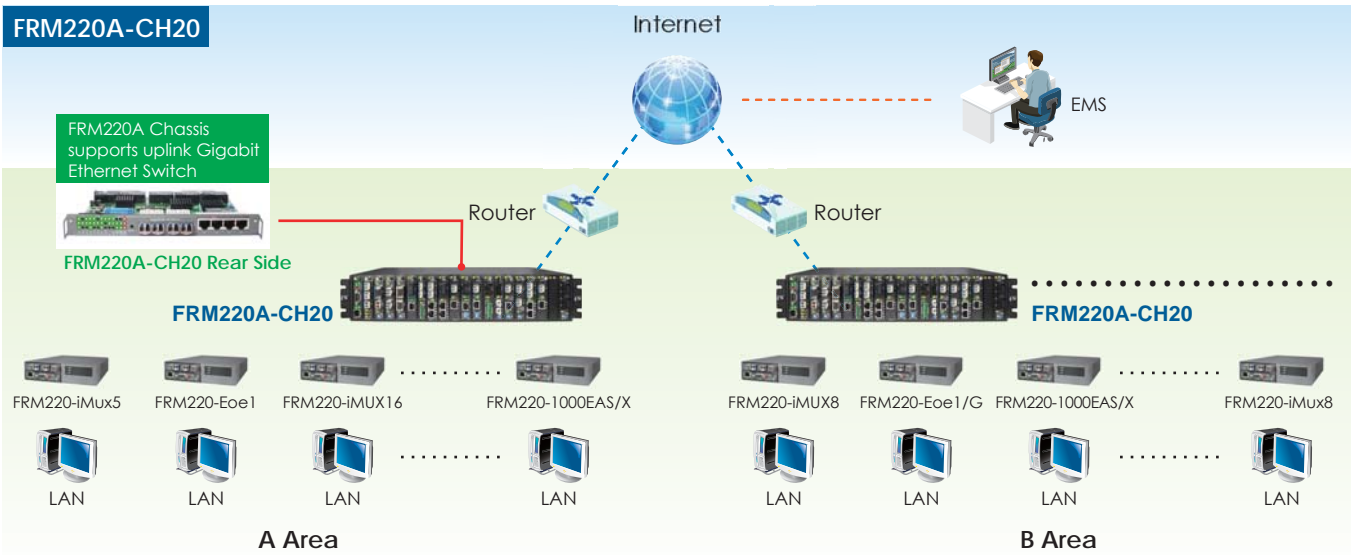


Application

FRM220-CH20



FRM220A-CH20



Comparison Table

Chassis Type	Slot	Power Type	NMC	Ethernet Aggregation Card	Chassis Cascade
FRM220-CH20	20	AC, DC, AD, AA, DD	✓		✓
FRM220A-CH20	20	AC, DC, AD, AA, DD		✓	
FRM220-CH08	8	AC, DC, AD, AA, DD	✓		

Note: AC: AC Power DC: DC Power AD: AC+DC Power AA: AC+AC Power DD: DC+DC Power



Ordering Information

Model Name	Type	Description
FRM220-CH20	Chassis	2U 20-Slot rack mount chassis with 20 line card blank plate
FRM220A-CH20	Chassis	2U 20-Slot rack mount chassis with 20 line card blank plate
FRM220-AC	Power	Chassis power module 100 ~ 240 VAC, IEC connector 200W
FRM220-DC24	Power	Chassis power module 18 ~ 36 VDC, 3 pin terminal block 200W
FRM220-DC48	Power	Chassis power module 36 ~ 72 VDC, 3 pin terminal block 200W

Chassis
FRM220 -
Example: FRM220 - CH20

Power Type
FRM220 -
Example: FRM220 - AC