



In-band Managed Multi-service Platform

FRM220

The FRM220 is a 2U high 19" Rack, 20 slot modular media converter rack. It provides an economic solution in high density fiber converter installations in enterprises or central offices. All critical components, Power, fans, management module and interface cards are hot swappable, allowing online field replacement. The hot-swappable power modules can be chosen from AC100-240V, DC18-36. or DC 36-75V. The chassis also has a pair of alarm relays and is able to stack up to 10 chassis as one management IP address. A number of cards are available that support different protocols including Ethernet, Voice, Data, transponders, FOM and IMUX.

Connectors

Console RS232(DB9)

LAN 10/100 Base TX RJ45

Physical Specifications

Dimensions: 303mm x 438mm x 88mm (W x D x H)

Weight: 5.2kg w/o P/S

Power Characteristics

AC : 100 ~ 240VAC

DC24 : 18 ~ 36VDC, DC48: 36 ~ 75VDC

Environmental Specifications

Operating 0°C ~ 50°C

Storage -10°C ~ 70°C

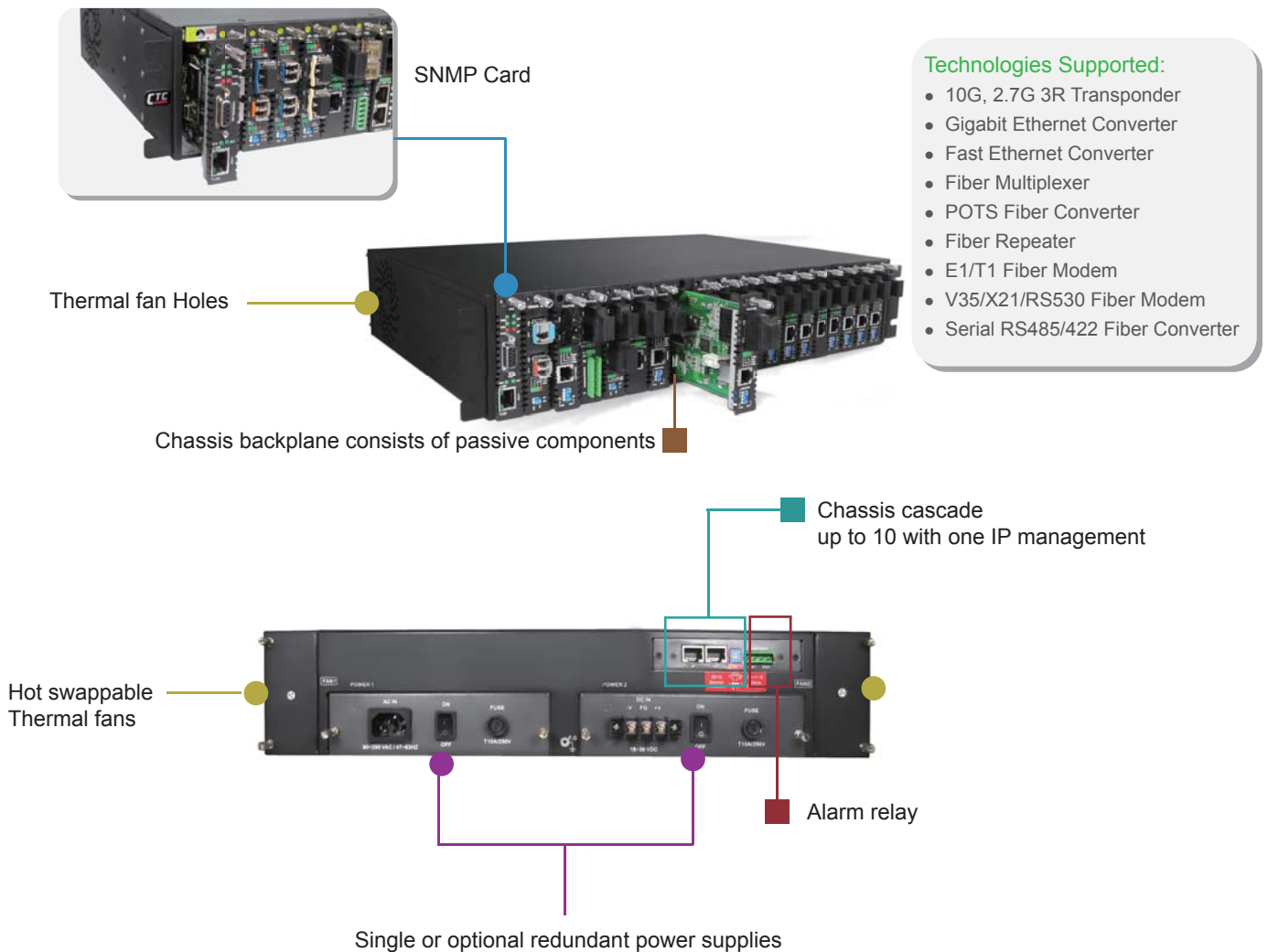
Relative humidity 5% ~ 90% non-condensing

Predicted MTBF : 65,000 hrs

Certification

FCC class A, VCCI class A, CE, RoHS

20 slot Multi-service Platform



- Technologies Supported:**
- 10G, 2.7G 3R Transponder
 - Gigabit Ethernet Converter
 - Fast Ethernet Converter
 - Fiber Multiplexer
 - POTS Fiber Converter
 - Fiber Repeater
 - E1/T1 Fiber Modem
 - V35/X21/RS530 Fiber Modem
 - Serial RS485/422 Fiber Converter

Power Redundancy

All the FRM220 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

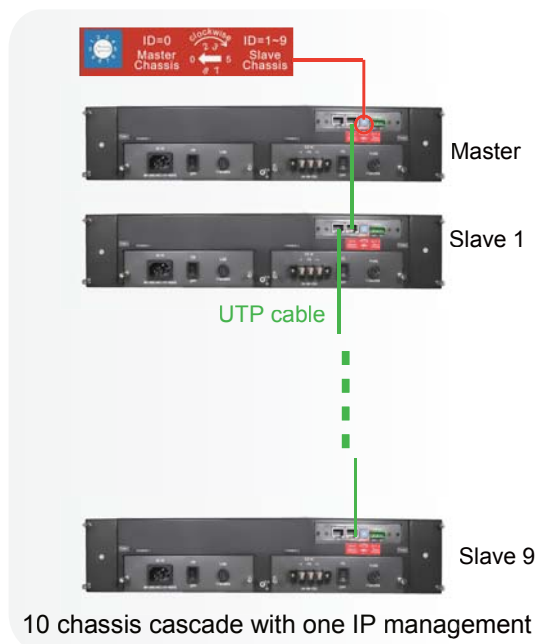
To further increase system reliability, the FRM220 chassis is fitted with two hot swappable fan modules. Both fan modules can be easily removed from the rear of the chassis, without interruption to the operation of the line cards. A fully loaded chassis can run continuously with only one fan module fitted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

Chassis cascade

The FRM220 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

The FRM220 chassis provides an NMC (Network Management Controller) card which must be installed into the first slot of chassis. The NMC card allows a network administrator with 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 blade.

Protocol Supported

The FRM220 chassis has been designed as a Multi-service platform. This allows network administrators to deploy the chassis in a wide range of network. 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 and 10G, 2.7G Transponder.

Ordering Information

- FRM220-** Model type
- CH20 : 2U 19" 20 slot chassis
 - AC : 100 ~ 240 AC power card
 - DC24 : 18 ~ 36 DC power card
 - DC48 : 36 ~ 72 DC power card

Example: FRM220-CH20

- FRM220-** Optional card
- NMC
 - 1000E-2F : 1000X to 1000X
 - 1000E-1 : 10/100/1000T to 1000X
 - 1000T : 1000T to 1000X
 - 10/100A : 10/100TX to 100FX with OAM/IP In-band management
 - 10/100i : 10/100TX to 100FX with In-band management
 - FXO/FXS : POTS over fiber converter
 - E1/T1R : E1/T1 RJ40 fiber modem
 - E1B : E1 BNC fiber modem
 - V35 : V35 fiber modem
 - X.21 : X.21 fiber modem
 - RS530 : RS530 fiber modem
 - RS449 : RS449 fiber modem
 - RS232 : RS232 fiber modem
 - Serial : RS485/422/232 fiber converter
 - 10G : 10G 3R Transponder
 - 2.7G : 2.7G 3R Transponder

Example: FRM220-1000E-2F