# Standalone Chassis for FRM220/FRM220A Series

All FRM220/FRM220A series rack mount cards are hot-swappable and can be installed in a 20 slots (2U), or 8 slots (1U) rack-mountable chassis with any combination of redundant hot swappable AC, 24VDC or 48VDC power supplies, providing a scalable solution that is space-efficient and cost-effective. The rack mount cards can also be mounted in 4 slots, 2 slots, or 1 slot standalone housing with fixed AC/DC powered chassis.

The rack mount cards of FRM220/FRM220A series provide telecommunication solutions for most applications. CTC union offers a universal and cost-efficient transmission series for a variety of fiber optic technologies (Multimode, Single mode, WDM, CWDM) starting from converters and switches, to modems and extending to intelligent voice/data multiplexer systems. The products are designed as rack mount cards in combination with various chassis types. The concept is to ensure an extremely variable mixture of products at low storage costs for spares.
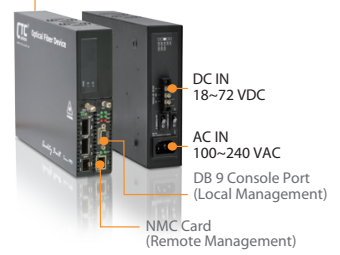
## Power Build-in Type

**FRM220-CH01-AC(DC or AD)**

DC IN 18~72 VDC

AC IN 100~240 VAC

**FRM220-CH01M**

DC IN 18~72 VDC

AC IN 100~240 VAC

DB 9 Console Port (Local Management)

**FRM220-CH02M & CH02M-2**

DC IN 18~72 VDC

AC IN 100~240 VAC

DB 9 Console Port (Local Management)

• Cooling Fan (CH02M) : 30 Watt
• Fanless (CH02M-2) : 12 Watt

**FRM220-CH02/NMC**

DC IN 18~72 VDC

AC IN 100~240 VAC

DB 9 Console Port (Local Management)

NMC Card (Remote Management)

**FRM220-CH02M-HP**

New

DB 9 Console Port (Local Management)

DC IN 18~72 VDC

AC IN 100~240 VAC

Superior Air Flow Cooling

• Cooling Fan : 30 Watt

**FRM220-CH02/NMC-HP**

New

NMC Card (Remote Management)

DC IN 18~72 VDC

AC IN 100~240 VAC

Superior Air Flow Cooling

• Cooling Fan : 30 Watt

**FRM220-CH04A**

NMC Card (Remote Management)

Cooing Fan

AC IN 100~240 VAC

DC IN 18~60 VDC
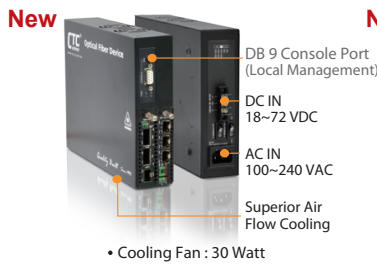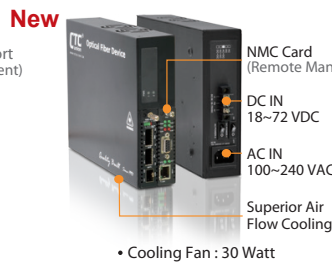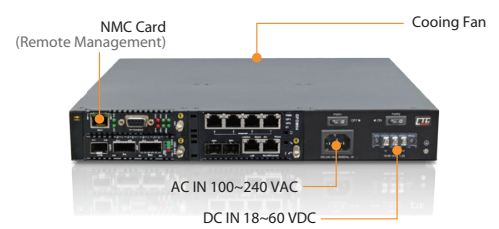
## Adapter Type

**FRM220-CH01**

Power Jack 12 VDC

**FRM220-CH02**

Power Jack 12 VDC

## Features

- Fanless (CH01, CH01M, CH02, CH02M-2)
- Cooling Fan (CH02M, CH02/NMC, CH04A, CH20M-HP, CH02/NMC-HP)
- Supports DB9 console port for local management (CH01M, CH02M, CH02M-2, CH02M-HP)
- Telnet, Web, Console, SNMP management via NMC Card (CH02/NMC, CH04A, CH02/NMC-HP)

**Power Type:**

- External Power: DC12
- Internal Power: AC, DC, AD, AA or DD redundant power (option)

## Specifications

| Power Input (Option) | External Adapter | Input Voltage 100~240VAC 50/60Hz |
|---|---|---|
| | | Output Voltage 12VDC 1A |
| | Internal Power | CH01/02 Series: AC: 100~240VAC DC: 18~72VDC |
| | | CH04A: AC: 100~240VAC DC: 18~60VDC |
| Weight | | 0.5~0.8kg (CH01) , 0.9kg (CH01M) |
| | | 0.8kg (CH02), 1.3kg (CH02M), 1.2kg (CH02M-2), 1kg (CH02/NMC), 1.5kg (CH04AC/DC), 1.9kg (CH04AD) |
| | | 1.38kg (CH02M-HP), 1.1kg (CH02/NMC-HP) |

| Dimensions (D x W x H) | External Adapter | 139x 23.2x 88mm (CH01) |
|---|---|---|
| | | 139x 44.5x 88mm (CH02) |
| | Internal Power | 180x 30x 135mm (CH01) |
| | | 185x 30x 135mm (CH01M) |
| | | 222.7x 45.5x 167.4mm (CH02M, CH02M-2, CH02/NMC) |
| | | 170x 310x 44.7mm (CH04A) |
| | | 222.7 x 49.5 x 177.4mm (CH02M-HP, CH02/NMC-HP) |

Specifications & design are subject to change without prior notice. Please visit CTC Union website for more details.

## FRM220 Slide-In Card Chassis Order Information

| Model Name | Description |
|---|---|
| **CH01** | 1 Slot Chassis with 100 ~240VAC to 12VDC Adapter, Fanless |
| **CH01-AC, DC, AD** | 1 Slot Chassis with AC: 100 ~240VAC  DC: 18 ~72VDC or Dual Power (AC+DC), Fanless |
| **CH01M-AC, DC, AD** | 1 Slot Chassis with Console port and AC: 100 ~240VAC, DC: 18 ~72VDC or Dual Power (AC+DC), Fanless |
| **CH02** | 2 Slots Chassis with 100 ~240VAC to 12VDC Adapter, Fanless |
| **CH02M-AC, DC, AD** | 2 Slots Chassis with Console port and AC: 30W 100 ~240VAC, DC:30W 18 ~72VDC or Dual Power (AC+DC), with Cooling Fan |
| **CH02M-2-AC, DC, AD** | 2 Slots Chassis with Console port and AC:12W 100 ~240VAC, DC:12W 18 ~72VDC or Dual Power (AC+DC), Fanless |
| **CH02/NMC (S)-AC, DC, AD** | 2 Slots Chassis with NMC card and AC: 30W 100 ~240VAC, DC: 30W 18 ~72VDC or Dual Power (AC+DC), with Cooling Fan |
| **CH02M-HP -AC, DC, AD** | 2 Slots Chassis with Console port and AC :30W 100~240VAC, DC:30W 18~72VDC or Dual Power (AC+DC), Cooling FAN with Superior Air Flow Cooling, High power consumption cards like "40G-1Q4S, 10G-SXX, 10G-SS, 2.7G-3S, MSW404S, MSW202" must use CH02M-HP chassis for console management |
| **CH02/NMC-HP -AC, DC, AD** | 2 Slots NMC Chassis AC :30W 100~240VAC, DC:30W 18~72VDC or Dual Power (AC+DC), Cooling FAN with Superior Air Flow Cooling High power consumption cards like "10G-SXX, 10G-SS, 2.7G-3S, MSW202" must use CH02/NMC-HP chassis for standalone SNMP management |
| **CH04A-AC** | 4-Slot chassis with built-in AC power 65W |
| **CH04A-DC** | 4-Slot chassis with built-in DC power 50W |
| **CH04A-AD** | 4-Slot chassis with built-in AC+DC power (65W+50W) |

### *Optional Accessories*

| Wall Mount Kits | Type |
|---|---|
| **CH01-WMK01** | Single Unit Wall Mounting Kit |
| **CH01-DRK02** | Single Unit Din-Rail |

**Note:** CH01-DRK02 only for Power Build-in Type

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Example: FRM220 – CH01–AD



CH01-DRK02
Single Unit Din-Rail

CH01-WMK01
Single Unit Wall Mounting Kit

| Rack Mounting Ear | Description |
|---|---|
| **CH01-RME01** | Single unit Rack Mounting EAR for CH01 power built in and CH01M chassis |
| **CH02-RME01** | Single unit Rack Mounting EAR for CH02M and CH02/NMC chassis |
| **CH02-RME02** | Single unit Rack Mounting EAR for CH02M-HP and CH02/NMC-HP chassis |

**Note:** For CH01/AC/DC/AD, CH01M and CH02M, CH02/NMC chassis

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Example: FRM220 – CH02–RME01