

## Managed Family

### Managed slide-in card Gigabit Ethernet converter for FRM220

# FRM220-1000E-1, 1000ES-1



The FRM220-1000E(s)-1 is a copper to fiber Gigabit Ethernet solution designed to make conversion between 10/100/1000Base-TX and 1000Base-SX/LX with SC or SFP LC connector. With SNMP and Web-based management in the FRM220, the Network administrator can monitor, configure and control the activity of each card in the chassis. This converter also supports features such as ingress/egress bandwidth control, auto or forced mode setting for copper Ethernet as well as auto laser shutdown.

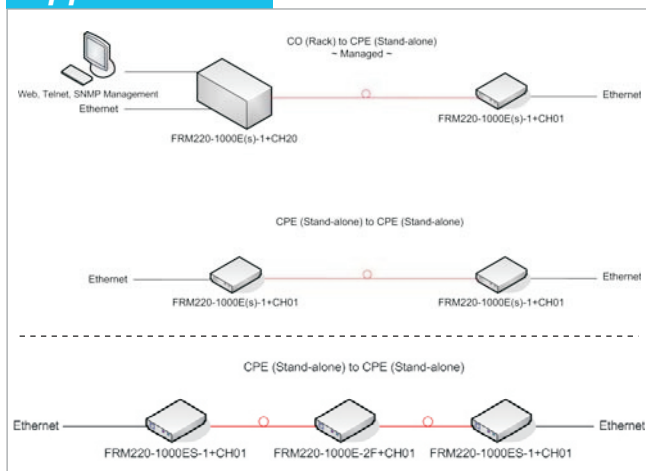
#### Features

- 10/100/1000Base-T to 1000Base-SX/LX SFP Managed card
- Auto-negotiation or forced mode
- Auto MDI/MDIX
- Forward 2046 bytes (max.) packets
- Support Bandwidth Control (70k ~ 250Mbps)
- Supports Flow control (Pause)
- Support Link fault pass through (LFP) function
- Supports remote CPE power fail detect (dying gasp)
- Auto Laser Shutdown (ALS)
- Online local f/w upgrade

#### Specifications

Ports	Connector : 1x9 (SC, ST, FC) or SFP LC
Optical Interface :	Data rate : 1000Mbps
	Duplex mode : Full duplex
	Cable type : MM 62.2/125µm, 50/125µm, SM 9/125µm
	Cable length: MM 2km, SM 15/30/50/80/120km, WDM 20/40/60/80km
	Wavelength: MM 850, 1310nm, SM 1310, 1550nm, WDM 1310Tx/1550Rx(type A), 1550Tx/1310Rx(type B)
Electrical Interface :	Connector : RJ45
	Data rate : 10Mbps, 100Mbps, 1000Mbps
	Duplex mode : Half / Full duplex
	Cable type : 10Base-T Cat.3, 4, 5, UTP, 100Base-TX Cat.5, 5e
	Cable length: 100 meters
Standard	IEEE 802.3, IEEE 802.3u, IEEE802.3ab
LEDs	Power, FX-Link 1/2, LFP(1000E/ES-2F) Power, FX-Link , LFP, TX-Link, TX-SPD (1000E/ES-1)
Power	DC In 12V
Power Consumption	< 5W
Dimensions (D x W x H)mm	155 x 88 x 23mm
Weight	120g
Temperature	0~50°C (Operating) ,0~70°C (Storage)
Humidity	10~90% non-condensing
Certification	CE, FCC, LVD, RoHS
MTBF	65,000 h (25°C)

#### Application



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### Managed slide-in card Gigabit Ethernet converter for FRM220

# FRM220-1000E-2F, 1000ES-2F



The FRM220-1000E(s)-2F is a copper to fiber Gigabit Ethernet solution designed to make conversion between 1000Base-SX/LX and 1000Base-SX/LX with SC or SFP LC connector. With SNMP and Web-based management in the FRM220, the Network administrator can monitor, configure and control the activity of each card in the chassis. This converter also supports features such as ingress/egress bandwidth control, auto or forced mode setting for copper Ethernet as well as auto laser shutdown.

#### Ordering Information

- **FRM220-1000E-1** 10/100/1000Base-T to 1000-SX/LX slide-in card
- **FRM220-1000E-2F** 2-port 1000-FX slide-in card
- **FRM220-1000ES-1** 10/100/1000Base-T to 1000-SX/LX SFP slide-in card
- **FRM220-1000ES-2F** 2-port 1000-FX SFP slide-in card

#### Stand-alone:

All of FRM220 Series slide-in card can be converted to stand-alone by inserting in FRM220-CH01 single slot chassis.  
Please refer to FRM220-CH01 data sheet page 2.