



## Hardened Gigabit Ethernet Managed Switch

# FRM220A-1002ES

Ethernet Switch

The FRM220A-1002ES is an industrial grade dual copper to dual fiber Gigabit Ethernet managed switch designed to make conversion between 10/100/1000Base-T and 100/1000Base-SX/LX with SFP connector. With SNMP and Web-based management in the FRM220 or FRM220A chassis the network administrator can monitor, configure and control the activity of each FRM220A-1002ES switch card locally via the SNMP manager, the functions including bandwidth control, QoS, VLAN, duplex and speed configuration. The FRM220A-1002ES managed switch is available in models that support operating temperatures from -40 to 85 degree C.

### Features

- 2 Port 10/100/1000BASE-T to 2 Port 100/ 1000BASE-X Converter
- Auto-Cross over for MDI/MDIX in TP port
- Auto-Negotiation or Manual mode in TP port
- Support flow control Enable or Disable
- Support Jumbo Frame 10K Bytes
- Support 16 Tag VLAN Group
- Support Double VLAN tag (Q-in-Q)
- Support Bandwidth control
- Support Loop Back Test
- Support Link Fault Pass Through ( LFP ) Function
- Support Auto Laser Shutdown (ALS) Function
- Support local management on FRM220A rack management.
- Console management on stand-alone.
- Support D/D function for SFP fiber transceiver
- Provide Product information for management
- Support the local management (Monitor or Configure status) by the SNMP manager.
- Support FRM220A for Ethernet Aggregation

### Specifications

#### Optical Interface

**Connector:** SFP-LC  
**Data rate:** 100Mbps, 1000Mbps  
**Duplex mode:** Full duplex

**Fiber**  
 MM 50/125µm, 62.5/125µm.  
 SM 9/125µm

**Distance**  
 MM 2km, SM 15/30/50/80/120km,  
 WDM 20/40/60/80km

**Wavelength**  
 MM 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:** 10Base-T Cat.3, 4, 5, UTP,  
 100Base-TX Cat.5, 5e or higher  
 1000Base-X Cat.5e or higher

#### Standard

IEEE 802.3, IEEE 802.3u, 802.3z, 802.3ab, 802.1Q,  
 802.3X, 802.1ad

#### LED Indications

PWR, LNK1, LNK2, TEST, LAN Link, LAN SPEED

#### Power

**Power Input:** DC 12V in  
**Power Consumption:** < 5W

#### Mechanical

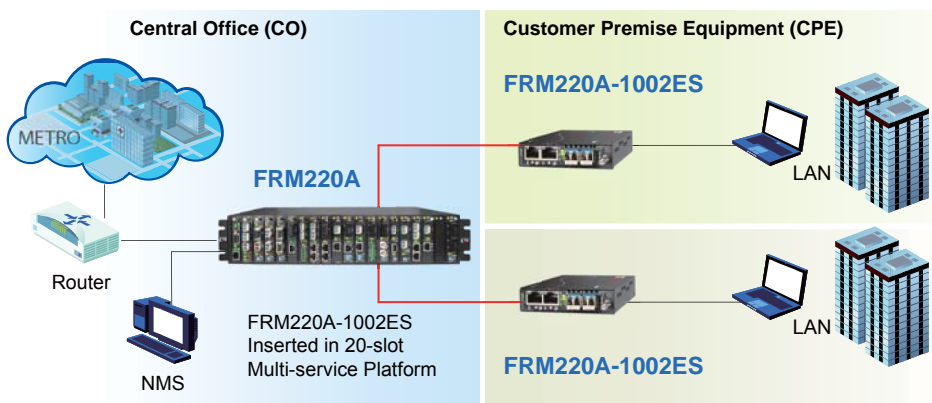
**Dimension:**  
 155 x 88 x 23mm (DxWxH)  
**Weight**  
 120g  
**Physical Characteristics**  
 Housing: Metal

#### Environmental

**Temperature**  
 Operating: -40 ~ 85°C  
 Storage: -40 ~ 85°C  
**Humidity**  
 0 ~ 95% non-condensing

#### Certification

FCC Part 15 Class A, CE Mark



### Ordering Information

#### Model Name

**FRM220A-1002ES**  
 FIB4-1002ES-AC,DC or AD

#### Description

2-Port 10/100/1000Base-T to 2-Port 100/1000Base-SX/LX SFP GE Manage Switch  
 STANDALONE UNIT