FRM220-MSW202

**2x 10/100/1000Base-T + 2x 100/1000Base-X
L2+ Carrier Ethernet Switch (EDD)**

The FRM220-MSW202 is a carrier class Ethernet Demarcation Device (EDD) with 2 x 10/100/1000Base-T Ethernet ports and 2x 100/1000Base-X dual rate SFP fiber ports which enables EPL (Ethernet Private Line) & EVPL (Ethernet Virtual Private Line) services with advanced carrier Ethernet features per the Metro Ethernet Forum (MEF 9 and 14). By supporting link and service Ethernet OAM schemes, the FRM220-MSW202 also provides extensive fault detection and diagnostic capabilities to ensure that actual network use complies with pre-agreed service level agreements (SLAs). This card may be controlled and monitored via an NMC in a managed chassis or used as a completely manageable device when used stand-alone. Stand-alone management is supported by Telnet/SSH, HTTP/HTTPS and SNMP v1, v2C or v3.
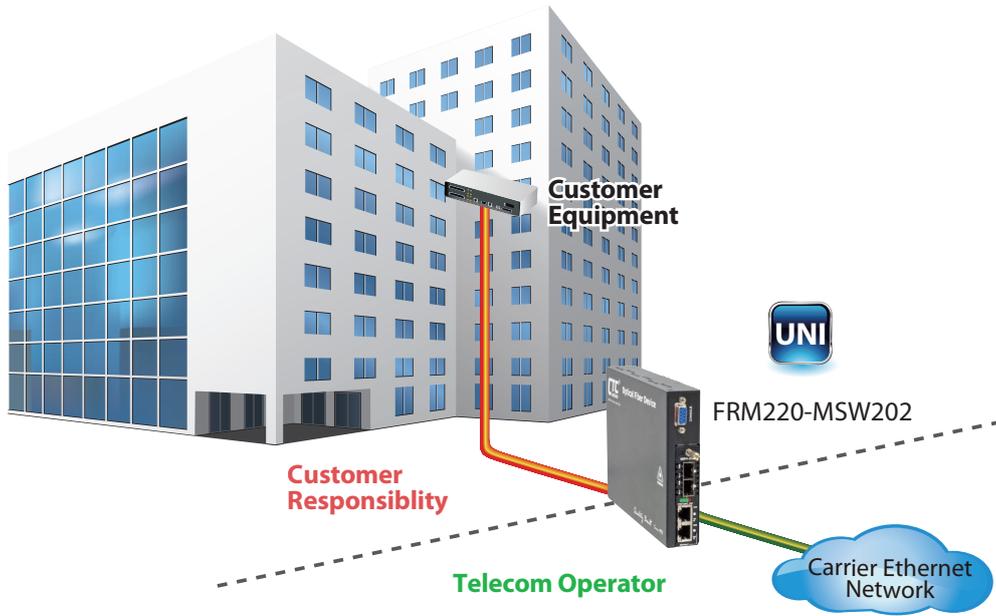
Features

- Complies with MEF CE1.0
- Supports 8K MAC
- Spanning Tree 802.1D, 802.1s, 802.1w
- Supports 802.1Q / 4K active VLANs
- Double VLAN Tagging (C-tag/S-tag) (IEEE 802.1ad) support for ISP application
- Various QoS capability (MAC/port/802.1p/Diffserv)
- Port-based rate limiting
- DHCP Snooping
- IGMP Snooping
- IPv6 support

- IEEE 802.3x and IEEE 802.1x support
- Jumbo frame for up to 9.6K
- Extensive Ethernet OAM support
- IEEE 802.3ah, IEEE 802.1ag, ITU-T Y.1731
- SNMP v1/v2c/v3, Telnet, Web GUI
- IEEE 1588 V2 aware (Optional)

Specifications

Interface	100/1000Mbps SFP slots x 2 + 10/100/1000Base-T RJ45 x 2
Filter & Forward Rate	14880pps at 10Mbps, 148800pps at 100Mbps, 1488000pps at 1Gbps
Switching Fabric Capacity	8Gbps
Transmission Method	Store and Forward Switching
Standard	IEEE 802.3u, IEEE 802.3z, IEEE 802.3ab, IEEE 802.3x, IEEE 802.1p, IEEE 802.1Q, IEEE 802.1ad, IEEE 802.1D, IEEE 802.1w, IEEE 802.1s, IEEE 802.1x, IEEE 802.3ad, IEEE802.3ah, IEEE802.1ag ITU-T Y.1731, ITU-T G.8031, ITU-T G.8032
Packet Buffer	4M bits
MAC Table Size	8K
Max. Packet Size	9.6K Bytes
VLAN Feature	IEEE 802.1Q tagged VLAN(Max. 4K VLAN groups), port based VLAN, MAC based VLAN, protocol based VLAN, private VLAN, IEEE 802.1ad Q-in-Q, VLAN translation, GVRP
QoS Feature	IEEE 802.1p 8 priority queues per port, CoS based on switch port; VLAN ID; DSCP; TCP/UDP port, IEEE 802.1p priority tag remarking, DSCP remarking, Port based ingress/egress rate limit 3 colors marker-CIR/EIR/Burst bandwidth control
L2 switching protection	STP, RSTP, MSTP, ITU-T G.8031/G.8032 Ethernet ring protection
Trunking	IEEE 802.3ad LACP(Max. 2 trunking group, Max. 4 ports per trunking group)
Security	IEEE 802.1x port based access control, MAC based access control authentication, RADIUS authentication, limited MAC address learning, IP/MAC binding, ACL rule based filtering, TACACS+, IP source guard, DHCP snooping/relay option 82, ARP inspection
IP Multicasting	IGMP throttling, IGMP filtering, IGMP fast leave, IGMP snooping v1/v2/v3, MVR, MLD snooping v1/v2
Storm Control	Unicast/Broadcast/Multicast storm suppression

Management	Web/Telnet CLI/SNMP/console interface, Web/CLI authentication, SSH v2, HTTPs, port mirroring, syslog, IPv6 management, NTP, SNTP, sFlow
SNMP Agent	SNMP v1/v2c/v3, RMON Group 1,2,3 and 9
Software Upgrade	TFTP/HTTP
Ethernet OAM	IEEE 802.3ah, IEEE 802.1ag, ITU-T Y.1731
LED Display	Power, System, Console, Link, Speed/Act
Power Input	100V ~ 240VAC, -18 ~ -72VDC
Power Consumption	< 12W
Operating Temperature	0 ~ 50℃
Humidity	5% ~ 90% (non-condensing)
Dimensions	Card: 201 x 135 x 35 mm (D x W x H)
Regulatory	FCC, CE

Application

Customer Equipment

UNI

FRM220-MSW202

Customer Responsiblity

Telecom Operator

Carrier Ethernet Network

Ordering Information

Model Name	Description
FRM220-MSW202	2x 10/100/1000Base-T + 2x 100/1000Base-X OAM Managed Switch

Note: To support console Interface management, this card must be placed in CH01M chassis.