About CTC Union

Since 1993

CTC Union Technologies, Established in 1993, CTC Union Technologies is a specialized network communication products manufacturer with ISO 9001 and ISO 14001 certifications, its own product R&D team and production plants. The software development system follows the security management standard **IEC62443** to enhance the security protection of our products that are used in many industries. In the spirit of continuous innovation and R&D, CTC Union Technologies provides a full range of high-quality, reliable, heavy-duty and heat-resistant products, including Industrial Ethernet, PoE, EN50155 and E-Mark certified switches. With more than 30 years of experience in designing telecom products under its belt and driven by leading-edge technology and high-quality service, CTC Union Technologies has become a leading supplier of network access switching equipment and FTTx solutions worldwide.

Brand Advantage

- ***Technology & Innovation***

  With technologies based on Ethernet and Optical transmissions, CTC Union can effectively meet the requirements of voice and data carriers and enterprises, as well as industrial/telecom grade Ethernet users.

- ***High Product Quality & Compliant with Certified Organization***

  CTC Union strictly control all product designs and improve our quality management system to guarantee the processes and requirements of our customers, material suppliers and production partners.

- ***Excellent Customer Server & Technical Support***

  CTC Union's technical support is available worldwide with 24hr/7days availability, whether it be pre-sale, post-sale, or technical answered as quickly as possible. CTC's Technical Support and RMA team have elite industry knowledge to ensure all issues are professionally and thoroughly resolved.

- ***Budget-Friendly & Strong Competitiveness***

  CTC Union is the best combination of good performance and Competitive pricing. We offer Ethernet transmission products for every price range. It is very priced competitive in the market.

Environment Policy

The environment policy of CTC Union is the mission and belief that we adhere to for social responsibility and environmental protection. We look for environmental improvement opportunities across all phases of our product lifecycles and continuously monitor our compliance with local and international laws. CTC Union is committed to operating as an environmentally responsible company. We are continuously adopting and assessing business practices which promote sustainability, reduce waste, and preserve the environment. Periodically audit and review to ensure continuous improvement results of implementation of the environment policy, maintaining altogether the green global village.

Contents

Communication
ex**T**ension
Conversion

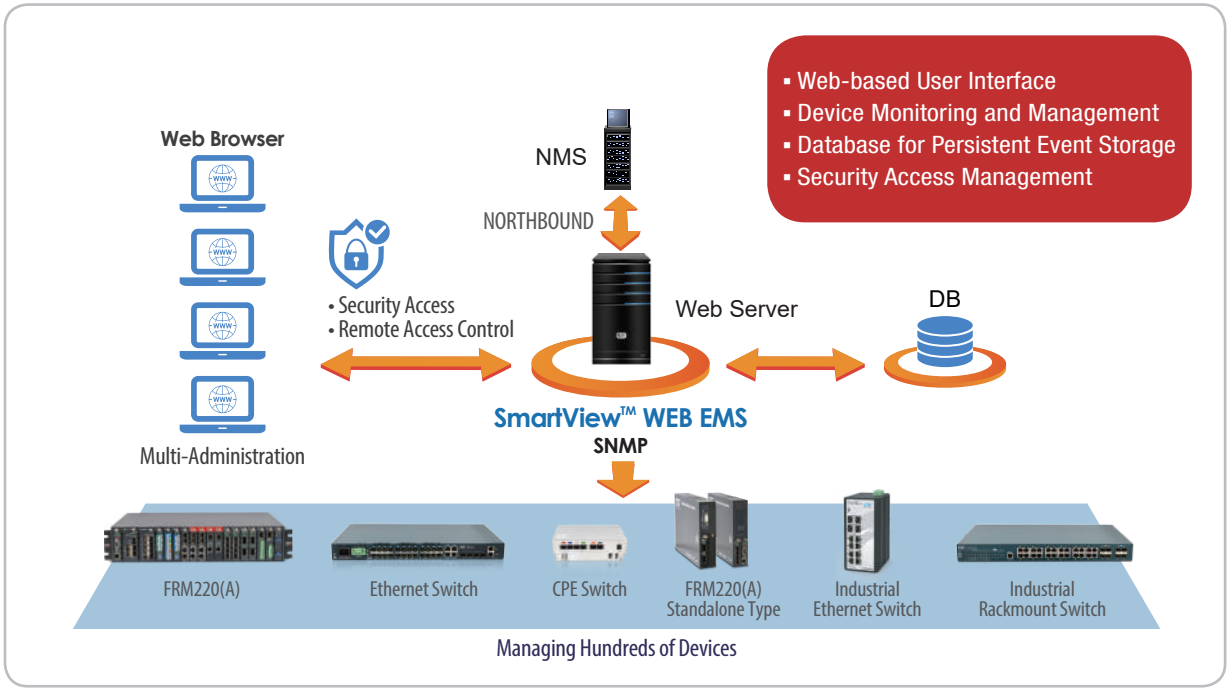
SmartView™ WEB EMS

- **Web-based User Interface**
- **Remote Access and Centralized Device Management**
- Real-time visual representations & processing of alarms
- Long term event storage (up to 1 year)

Functions

- Main Functions (FCAPS):
  Fault Management,
  Configuration Management,
  Accounting Management,
  Performance Management,
  Security Management
- Remote access control for efficient configuration
- Network element performance monitoring
- Alarm event and notification
- Auto discovery and device viewer
- Allow multiple concurrent operating users

WEB EMS Topology



L2+ Ethernet Switch

CTC Union's standalone layer 2 switch series of Gigabit Ethernet managed switches are positioned for market segments included SOHO/residential, SMB and Enterprise as well as ISP/Telecom operator customers. For any deployment scale, CTC Union's standalone fiber switches fulfill the simple installation requirements of Ethernet Technology based networks in a cost effective manner.

10G Ethernet Swtich

CTC Union 10G Ethernet switch is designed to boost the high performance switching and wire speed connectivity in 10G fiber optics interface. It is suitable for the aggregation layer deployment in the enterprise network.The extended model with time precision capable features enables to deliver the time sensitive applications such as 4G/5G mobile backhaul network transportation or private network installation of smart factory automation.

Model	XGS-2000M	XGS-1208SE	XGS-1208M
Uplink Port	10GBase-X SFP+ slot x 16 + 10G Combo x 4	10GBase-X SFP+ slot x 12	10GBase-X SFP+ slot x 12
Service LAN Port		10/100/1000Base-T RJ45 × 8	10/100/1000Base-T RJ45 × 8
Console Port	USB type C × 1 (RS-232)	USB type C × 1 (RS-232)	USB type C × 1 (RS-232)
Management Port	10/100/1000Base-T RJ45 × 1	10/100/1000Base-T RJ45 × 1	10/100/1000Base-T RJ45 × 1
1 PPS Interface	-	SMA connector x 2	-
Power Module	AC power : 100 ~ 240VAC or DC power : 36 ~ 60VDC (-48V)	AC power : 100 ~ 240VAC or DC power : 36 ~ 60VDC (-48V)	AC power : 100 ~ 240VAC or DC power : 36 ~ 60VDC (-48V)
Non-blocking Switch Fabric Capacity	400Gbps	256Gbps	256Gbps
Packet Buffer	32M bits	32M bits	32M bits
MAC Address Table Size	32K	32K	32K
Jumbo Frame Size	10K Bytes	10K Bytes	10K Bytes
ITU-T G.8262 SyncE		✓	
IEEE 1588v2 PTP		✓	
Dimension(D×W×H)	280 × 440 × 43.5 mm	280 × 440 × 43.5 mm	280 × 440 × 43.5 mm
Operating Temperature	0 ~ 50℃	0 ~ 50℃	0 ~ 50℃

Carrier Ethernet

Carrier Ethernet Switch from CTC Union offers the various product scope from UNI to NNI/ENNI capable for metro network. They comply with CE2.0 standard to support MEF defined E-Line / E-LAN / E-Access service types and enable the bandwidth profile configuration to deliver end-to-end high-performance SLA based service for business connection as well as mobile backhaul applications.

Model	MSW-4428X	MSW-4424A
MEF Standard Compliance	CE 2.0 E-Line/E-LAN/E-tree/E-Access	CE 2.0 E-Line/E-Access
Uplink Port	10GBase-X/1000Base-X SFP slot × 4	10GBase-X/1000Base-X SFP slot × 4
Service LAN Port	100/1000Base-X SFP slot × 24 + GbE port × 4	100/1000Base-X SFP slot × 24
Console Port	RJ45 × 1 (RS-232)	RJ45 × 1 (RS-232)
Management Port	10/100/1000Base-T RJ45 × 1	10/100/1000Base-T RJ45 × 1
Power Module	AC power : 100 ~ 240VAC or DC power : 36 ~ 60VDC (-48V)	AC power : 100 ~ 240VAC or DC power : 36 ~ 60VDC (-48V)
Non-blocking Switch Fabric Capacity	136Gbps	128Gbps
Packet Buffer	32M bits	32M bits
MAC Address Table Size	32K	32K
Jumbo Frame Size	10K Bytes	10K Bytes
Dimension(D×W×H)	250 × 440 × 43.5 mm	270.3 × 437.5 × 43.5 mm
Operating Temperature	-10 ~ 60℃	0 ~ 50℃

Access Switch

CTC Union's access switch series offer 10~32 fiber/UTP ports density option included 1Gbps or multi-gigabit Ethernet downlink speed and 1Gbps or 10Gbps speed for uplink ports. Especially, the market trend driven NBase-T multi-gigabit technology is also introduced to support the new generation network gears in order to relieve the bottleneck and insufficiency of traditionally gigabit link. The SMB and enterprise can also migrate to the reliable and secure Ethernet based high speed from 1 gigabit to multi-gigabit by connecting the existed Cat5e/Cat6 cabling infrastructure. They are suitable for the intranet network deployment of enterprise or treated as the MDU (Multiple Dwelling Unit) deployment to provision internet service by ISP. This switch family supports completely L2 feature sets such as VLAN, QoS, IGMP multicast as well as robust security management to facilitate service provider's build out of a secured and manageable Ethernet access network.


Model	QSW-4624CM	QSW-4416CM	GSW-3424FM	GSW-4448CM
Uplink Port	10GBase-X/1000Base-X SFP slot × 6	10GBase-X/1000Base-X SFP slot × 4	10GBase-X/1000Base-X SFP slot × 4	10GBase-X/1000Base-X SFP slot × 4
Service LAN Port	1G/2.5G RJ45 × 24	1G/2.5G RJ45 × 16	100/1000Base-X SFP slot × 24 + RJ45 GbE port × 4	CSFP(48×GbE) with GbE combo port × 4
Console Port	USB type C × 1 (RS-232)	USB type C × 1 (RS-232)	RJ45 × 1 (RS-232)	RJ45 × 1 (RS-232)
Management Port			10/100/1000Base-T RJ45 × 1	10/100/1000Base-T RJ45 × 1
Power Module	AC power : 100 ~ 240VAC or DC power : 36 ~ 60VDC (-48V)	AC power : 100 ~ 240VAC or DC power : 36 ~ 60VDC (-48V)	AC power : 100 ~ 240VAC or DC power : 36 ~ 60VDC (-48V)	AC power : 100 ~ 240VAC or DC power : 18 ~ 60VDC (-24V) 36 ~ 60VDC (-48V)
Non-blocking Switch Fabric Capacity	240Gbps	160Gbps	136Gbps	178Gbps
Packet Buffer	32M bits	32M bits	32M bits	32M bits
MAC Address Table Size	32K	32K	32K	32K
Jumbo Frame Size	10K Bytes	10K Bytes	10K Bytes	10K Bytes
Dimension(D×W×H)	220 × 440 × 43.5 mm	220 × 440 × 43.5 mm	250 × 440 × 43.5 mm	250 × 440 × 43.5 mm
Operating Temperature	0 ~ 50 ℃	0 ~ 50 ℃	0 ~ 50 ℃	0 ~ 50 ℃




Model	GSW-4424CM	GSW-3424CM	GSW-4208CM	GSW-3208M2
Uplink Port	10GBase-X/1000Base-X SFP slot × 4	1000Base-X SFP slot × 4	10GBase-X/1000Base-X SFP slot × 2	100/1000Base-X SFP slot × 2
Service LAN Port	10/100/1000Base-T RJ45 × 24	10/100/1000Base-T RJ45 × 24	10/100/1000Base-T RJ45 × 8	10/100/1000Base-T RJ45 × 8
Console Port	RJ45 × 1 (RS-232)	RJ45 × 1 (RS-232)	DB9 RS-232 × 1	DB9 RS-232 × 1
Power Module	AC power : 100 ~ 240VAC or DC power : 36 ~ 60VDC (-48V)	AC power : 100 ~ 240VAC or DC power : 36 ~ 60VDC (-48V)	AC power : 100 ~ 240VAC or DC power : 18 ~ 72VDC (-48V)	AC power : 100 ~ 240VAC or DC power : 18 ~ 72VDC (-48V)
Non-blocking Switch Fabric Capacity	128Gbps	56Gbps	56Gbps	20Gbps
Packet Buffer	32M bits	32M bits	8M bits	4M bits
MAC Address Table Size	32K	32K	16K	8K
Jumbo Frame Size	10K Bytes	10K Bytes	10K Bytes	9.6K Bytes
Dimension(D×W×H)	220 × 440 × 43.5 mm	220 × 440 × 43.5 mm	190 × 215 × 44 mm	117 × 250 × 43.8 mm
Operating Temperature	0 ~ 50 ℃	0 ~ 50 ℃	0 ~ 50 ℃	0 ~ 50 ℃

PoE Switch

CTC Union's PoE switch series support gigabit and multi-gigabit link speed and include 8 ports and 24 ports density for small and medium network environment for deployment in office applications such as PoE powered IP telephony, WiFi access and IP surveillance. They support IEEE 802.3af/at PoE standard up to 30W per port and maximum 100m transmission distance. Especially, the market trend driven NBase-T multi-gigabit technology is also introduced to support the WiFi 6E/7 new generation gear in order to relieve the bottleneck and insufficiency of traditionally gigabit link. These PoE switch models support completely L2 management feature sets as well as advanced PoE management functions to boost your network with optimal performance, efficiency and PoE power consumption.

Model	QSW-4624MP	QSW-4208MP	GSW-4424MP	GSW-3424MP	GSW3208MP-1
Uplink Port	10GBase-X/1000Base-X SFP slot × 6	10GBase-X/1000Base-X SFP slot × 2	10GBase-X/1000Base-X SFP slot × 4	1000Base-X SFP slot × 4	1000Base-X SFP slot × 2
Service LAN Port	1G/2.5G RJ45 × 24	1G/2.5G RJ45 × 8	10/100/1000Base-T RJ45 × 24	10/100/1000Base-T RJ45 × 24	10/100/1000Base-T RJ45 × 8
Console Port	USB type C × 1 (RS-232)	USB type C × 1 (RS-232)	RJ45 × 1 (RS-232)	RJ45 × 1 (RS-232)	RJ45 × 1 (RS-232)
Management Port	10/100/1000Base-T RJ45 × 1	10/100/1000Base-T RJ45 × 1	10/100/1000Base-T RJ45 × 1	10/100/1000Base-T RJ45 × 1	-
Power Module	AC power : 100 ~ 240VAC	AC power : 100 ~ 240VAC	AC power : 100 ~ 240VAC	AC power : 100 ~ 240VAC	AC power : 100 ~ 240VAC
Non-blocking Switch Fabric Capacity	240Gbps	80Gbps	128Gbps	56Gbps	20Gbps
Packet Buffer	32M bits	12M bits	32M bits	32M bits	4M bits
MAC Address Table Size	32K	16K	32K	32K	8K
Jumbo Frame Size	10K Bytes	10K Bytes	10K Bytes	10K Bytes	9.6K Bytes
IEEE 802.3af/802.3at PoE/PSE Compliance	✓	✓	✓	✓	✓
PoE Power Budget	720W	240W	450W	450W	180W
Dimension(D×W×H)	280 × 440 × 43.5 mm	140 × 290 × 43.8 mm	280 × 440 × 43.5 mm	280 × 440 × 43.5 mm	140 × 290 × 43.8 mm
Operating Temperature	0 ~ 50 ℃	0 ~ 50 ℃	0 ~ 50 ℃	0 ~ 50 ℃	0 ~ 50 ℃

CPE Switch

CTC Union's CPE switch family mainly focuses on the P2P active Ethernet technology based FTTX market with overall port density from 4 to 7 ports 1Gbps or 2.5Gbps UTP and 1Gbps or 10Gbps Fiber uplink. Their design concept is well considered from the basis of stylish and elegant appearance for the residential user as well as the advantage of easy installation for the FTTH service provider. The whole CPE switch family adopts evolutionary cable tray structural design to help the installer more easily and protectively manage the excess fiber within the unit. Also, the CPE switch supports completely L2 feature sets and highly preferred zero touch provision (ZTP) function which is suitable for the very large scale deployment to avoid truck rolls and save OPEX for FTTH service providers or operators.

Model	QSW-4204M	GSW-2020C7	GSW-2020C5	GSW-2008MS
Uplink Port	1000Base-X/10GBase-X SFP slot × 2	100/1000Base-X SFP slot × 1	100/1000Base-X SFP slot × 1	100/1000Base-X SFP slot × 2
Service LAN Port	1G/2.5G RJ45 × 4 + 1G RJ45 × 1	10/100/1000Base-T RJ45 × 7	10/100/1000Base-T RJ45 × 5	10/100/1000Base-T RJ45 × 8
Power Module	DC in : 12V ; 2A	DC in : 12V ; 1A	DC in : 12V ; 1A	DC in : 12V ; 1A
Non-Blocking Switch Fabric Capacity	62Gbps	16Gbps	12Gbps	20Gbps
Packet Buffer	8M bits	1.75M bits	1.75M bits	4M bits
MAC Address Table Size	16K	8K	8K	8K
Jumbo Frame Size	10240 Bytes	10240 Bytes	10240 Bytes	9.6K Bytes
Dimension(D×W×H)	122 × 162 × 43.5 mm	122 × 162 × 32.2 mm	122 × 162 × 32.2 mm	120 × 170 × 35 mm
Operating Temperature	0 ~ 50 ℃	0 ~ 50 ℃	0 ~ 50 ℃	0 ~ 50 ℃

NID & EDD

CTC Union carrier Ethernet switch family offers the product scope from EDD/NID deployed at the enterprise customer as well as the access end of metro network. They comply with CE 2.0 standard to support MEF defined E-Line/E-LAN/E-Tree/E-Access service types and enable the bandwidth profile configuration to deliver end-to-end high performance SLA-based business connection service. On the other hand, the advanced model can support timing synchronization features included **SyncE** and **IEEE 1588v2 PTP** to enhance and migrate a carrier Ethernet network for mobile backhaul network application.

Model	MSW-4204S	MSW-4204	MSW-404	MSW-202A
MEF Standard Compliance	CE 2.0 E-Line/E-LAN/E-Tree/E-Access	CE 2.0 E-Line/E-LAN/E-Tree/E-Access	CE 2.0 E-Line/E-LAN/E-Tree/E-Access	CE 2.0 E-Line/E-Access
Uplink Port	1000Base-X/10GBase-X SFP slot × 2	1000Base-X/10GBase-X SFP slot × 2	100/1000Base-X SFP slot × 4	100/1000Base-X SFP slot × 2
Service LAN Port	10/100/1000Base-T RJ45 × 4	10/100/1000Base-T RJ45 × 4	10/100/1000Base-T RJ45 × 4	10/100/1000Base-T RJ45 × 2
Console Port	RJ45 × 1 (RS-232)	RJ45 × 1 (RS-232)	DB9 RS-232 × 1	DB9 RS-232 × 1
Management Port	10/100/1000Base-T RJ45 × 1	10/100/1000Base-T RJ45 × 1	-	-
1 PPS Interface	SMA Connector × 2			
Power Module	AC power : 100 ~ 240VAC or DC power : 36 ~ 60VDC (-48V)	AC power : 100 ~ 240VAC or DC power : 36 ~ 60VDC (-48V)	AC power : 100 ~ 240VAC or DC power : 18 ~ 72VDC (-48V)	AC power : 100 ~ 240VAC or DC power : 18 ~ 72VDC (-48V)
Non-blocking Switch Fabric Capacity	48Gbps	48Gbps	16Gbps	8Gbps
Packet Buffer	8M bits	8M bits	8M bits	4M bits
MAC Address Table Size	16K	16K	8K	8K
Jumbo Frame Size	10K Bytes	10K Bytes	10K Bytes	9.6 Bytes
ITU-T G.8262 SyncE	✓			
IEEE 1588v2 PTP	✓			
Dimension(D×W×H)	190 × 215 × 44 mm	190 × 215 × 44 mm	167.4 × 219.4 × 44.5 mm	135 × 180 × 30 mm
Operating Temperature	0 ~ 50℃	0 ~ 50℃	0 ~ 50℃	0 ~ 50℃

PoE Series (Injector/Splitter/Extender/Converter)

PoE++ Injector

INJ-G90

IEEE802.3bt
90W

- Support 10M/100M/1G/2.5G/5G/10Gbps data rate pass through
- IEEE 802.3bt (90W) standard compliance
- PoE output voltage @53VDC minimum
- PoE short circuit protection to guard the remote PoE/PD device
- Compact size and wall mountable

PoE Injector

INJ-G30

IEEE 802.3af/at
15/30/36W

- Complies with IEEE 802.3af/at standards
- Provides 1 10/100/1000Mbps pass through data rate
- Wall Mountable
- Complies with IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX and IEEE 802.3ab 1000Base-T
- CE & FCC Class B Certificates

Industrial PoE Splitter

INJ-SPL01

IEEE802.3af/at
12/19/24VDC output

- Splits power and data from PoE Input
- Supports PoE IEEE802.3af/at A mode (1,2,3,6) or B mode(4,5,7,8)
- Selectable output voltage, 12/19/24VDC select by slide SW
- Supports output power upto 12VDC/1.4A, 19VDC/1.05A, or 24VDC/0.85A
- Compliant with 10/100/1000Base-T(X)
- IP30 rugged metal housing and fanless

Gigabit PoE Extender

EXT-G104P

1 port PoE++/PD to 4 ports
PoE+/PSE GbE PoE Extender

- Plug and Play installation
- No additionally AC/DC power supply required
- Extending the PoE signal for additional 100 meters
- IEEE 802.3bt (90W) and IEEE 802.3at (30W) standard compliance
- Wall mountable

LAN Extender

VDTU2-B130

1-port VDSL2 Gigabit LAN Extender

- High speed Ethernet extension over UTP, CAT 5e/6/7.
- Supports ITU-T G.993.5 G. Vectoring and G.INP
- Selectable profile setting via Dip switch
- Supports VDSL2 profile 35b/30a/17a
- Long-reach Ethernet connection up to 3km

LX100

10/100 Base-TX LAN Extender

- 1×10/100Base-TX RJ45 LAN port + 1×RJ-45 WAN port
- Long distance data transmission up to 800m on 1/2 pair UTP cable
- Quick deployment and easy maintenance

PoE Media Converter

PMC-1000S

10/100/1000Base-T to 100/1000Base-X SFP
with PoE+ (30W) Media Converter

- Conversion between 10/100/1000Base-T and 100/1000Base-X
- Supports dual rate (100/1000) SFP for selectable Fast or Gigabit speed on fiber
- PoE output voltage up to 55VDC
- Supports IEEE 802.3at/af PoE, output 30Watts Power Budget
- Supports LFPT (Link Fault Pass Through)
- Supports DIP SW for setting LFPT, Switch or Converter mode, SFP speed

PMC-100PD

10/100Base-TX to 100Base-FX
PoE PD Converter

- Conversion between 10/100Base-TX to 100Base-FX
- Supports LFPT (Link Fault Pass Through)
- Supports IEEE802.3af PoE PD (Power Device)
- Supports flow control (Pause)
- Supports PD input power 48VDC

Serial Connectivity

Serial Device Server

The Serial to Ethernet with/without Wi-Fi Converter, provides a bridging device to connect RS-232/RS-485 Serial Data communications to hardwired Ethernet networks or WiFi. It connects serial devices such as PLC, alarm sensors and PTZ camera control to IP networks. Applications include industrial/factory automation, public safety, and surveillance systems. The Serial converter is built for use in light industrial environments, featuring a compact wall-mount design.





Model	STE211W	STE211	STE400A-485	STE400A-232	STE800A-232
LAN	10/100TX	10/100TX	10/100TX	10/100TX	10/100TX
WiFi	WiFi 802.11b/g/n				
Serial Interface	1×RS-232, 1× RS-422/485	1×RS-232, 1×RS-422/485	RS-232/422/485	RS-232	RS-232
Serial Connector	1×DB9M + 1×Terminal block	1×DB9M + 1×Terminal block	4×DB9M	4×DB9M	8×DB9M
Protocols	ARP, IP, ICMP, UDP, TCP, HTTP, DHCP, DNS, NTP	ARP, IP, ICMP, UDP, TCP, HTTP, DHCP, DNS, NTP	TCP, UDP. IP. ARP. ICMP. HTTP. DHCP	TCP, UDP. IP. ARP. ICMP. HTTP. DHCP	TCP, UDP. IP. ARP. ICMP. HTTP. DHCP
Communication Modes	TCP Server/TCP Client/UDP/ Virtual Com	TCP Server/TCP Client/UDP/ Virtual Com	TCP Server, TCP Clinent, Virtual Com Mode, UDP	TCP Server, TCP Clinent, Virtual Com Mode, UDP	TCP Server, TCP Clinent, Virtual Com Mode, UDP
Baud Rate	300 bps ~ 921.6 K bps Asynchronous	300 bps ~ 921.6 K bps Asynchronous	110 to 230.4Kbps Asynchronous	110 to 230.4Kbps Asynchronous	110 to 230.4Kbps Asynchronous
Management	WEB Pages	WEB Pages	WEB Pages	WEB Pages	WEB Pages

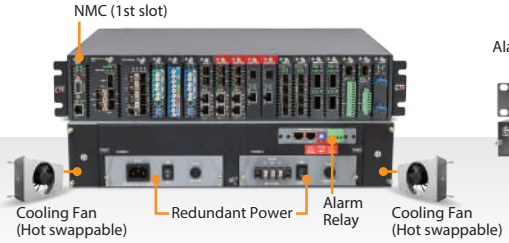
Protocol Gateway

The MQTT/Modbus Wi-Fi / Ethernet / Serial Gateway, provides an easy to deploy device to send RS-232/RS-485 Serial Modbus RTU Data communications to TCP networks on hard-wired Ethernet or over wireless WiFi. The Gateway works with standard Modbus Slave devices, such as PLCs, IoT Sensors, Energy meters (AMRs), Solar Inverters, Wind Turbines, IO Modules, Flow Meters and more. The MQTT Gateway is built for use in light industrial environments and features a compact wall-mount design.

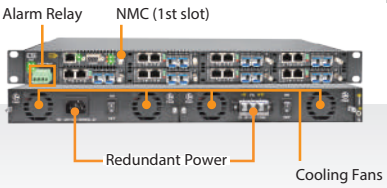

Model Name	GW211W-MQ	GW211W-MB
Ethernet Interface		
RJ45 10/100Base-TX	1	1
WiFi Interface		
IEEE802.11b/g/n WiFi	1	1
Antenna	1 SMA	1 SMA
Serial Interface		
Total Serial port	2	2
RS232	1	1
RS422/485	1	1
Baud rate	300~921.6 Kbps	300~921.6 Kbps
Function		
Gateway	Modbus RTU to MQTT	Modbus TCP to Modbus RTU
Power		
Power input	9~32VDC	9~32VDC
Connector	Power Jack & Terminal	Power Jack & Terminal
Physical		
Dimension (W x D x H)	110x90x26mm	110x90x26mm
Mount	Wall Mount	Wall Mount
Operating Temperature		
-20 ~ 70°C	✓	✓
Certification		
CE, FCC	✓	✓

Multi-Service Platform – FRM220

FRM220-CH20 (2U 19" 20 Slots)



FRM220-CH08 (1U 19" 8 Slots)



FRM220-CH04A (1U 4 Slots)

Main Features

Module Cards for Deployment Scenarios

The FRM220-CH20, FRM220-CH08 and FRM220-CH04A have been designed as a Multi-service platform. This allows network administrators to deploy the chassis in a wide range of networks. Technologies supported by the chassis include Fast/Gigabit Ethernet, E1/T1, V35/X21/RS-530, Serial RS-485/RS-422, Voice FXO/FXS, Repeater, Fiber Multiplexer, E1 Inverse Multiplexer, CWDM Mux/DeMUX EDFA Booster and 10G/16G/40G 3R Transponder.

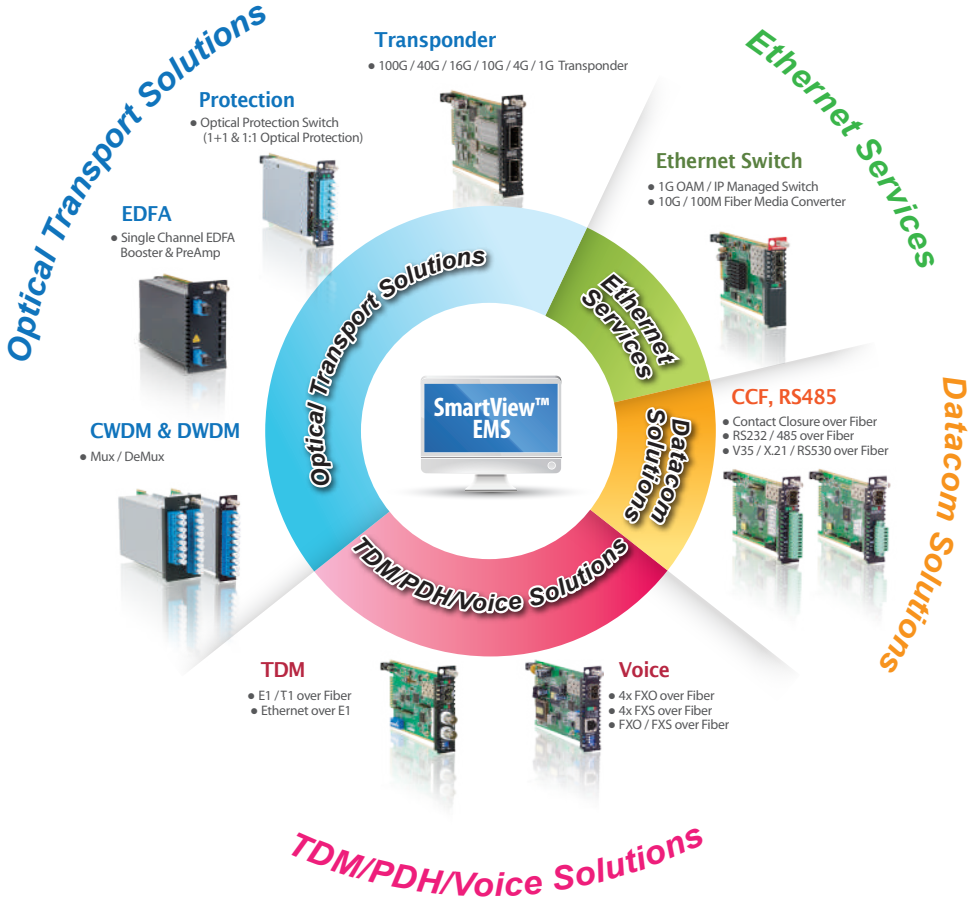
Network Management

The FRM220-CH20, FRM220-CH08 and FRM220-CH04A require a NMC card which must be installed into the first slot of chassis. The NMC card allows a network administrator the ability to configure and monitor the status of the blades. Manage ment can be achieved locally over RS232, or over the network by Telnet, Web or SNMP. If the blades support Ethemet in the First Mile (IEEE 802.3ah), then the management module can also be monitored the status of a remote CPE.

iAccess™ Platform Solutions

iAccess™ Multi-Service Platform offers a full range of solutions for service providers and enterprises, including Optical Transport Solutions (transponders, muxponders, CWDM, DWDM), TDM/PDH/Voice Solutions (fiber converters and multiplexers), Ethernet Services (switches and converters) and Data Communication Solutions (Sync/Async serial over fiber). The iAccess is a fully modular product series that integrates a wide range of modules for any interface or protocol hosted in a selection of Chassis sizes for simple and flexible operations.

iAccess Platform Solution Category



FRM220 Key Module Card Highlight

Ethernet Switch

- In-Band Management
- Dying Gasp
- IEEE802.3ah OAM
- Auto Laser Shout (ALS)

10G Media Converter

NEW

- In-Band Management
- IEEE 802.3bz NBase-T
- Link Fault Pass Through (LFPT)
- SNMP, Web GUI, Console Management
- 1+1 Fiber Redundancy

Transponder
(100G/40G/16G/10G)

- DCO QSFP28
- 3R (Re-Amp, Re-Shaping, Re-Timing)
- Lookback Test
- 1+1 Protection/Dual Channel
- Multi-Protocol/Multi-Rate

EDFA

- Single channel Preamp 17dB & Booster 15dB/21dB
- Automatic Gain Control (AGC)
- Operating wavelength 1528~1563nm

Protection

- Single Mode (1:1/1+1)
- Multi-Mode (1:1)
- 1:1 Restoration Time <20 ms
- 1+1 Restoration Time <50 ms

WDM
(4/8/16ch.)

- CWDM & DWDM Mux/Demux
- Low optical insertion loss
- High channel isolation

CCF

- 2ch/4ch Contact Closure fiber
- 30VDC, 0.5amp relay N.O (Normally Open)
- Relay contact for Carrier Detect, N.C. (Normally Close)

Standaone Chassis

Type	CH01 (Adapter Type)	CH01	CH01M	CH02M	CH02/NMC	CH02/SMT
Slot	1	1	1	2	2	2
Console			✓ DB 9	✓ DB 9		
NMC					✓	✓
Adapter (Power Jack 12VDC)	✓					
Power Build-in (18-72VDC / 100-240VAC)		✓	✓	✓	✓	✓
FAN				✓	✓	✓
Dimmension (D×W×H)mm	139×23.2×88	180×30×135		219×44.5×167.4		220×44.5×205

10G Media Converter

XMC-10GC

Features

- 10G/5G/2.5G/1G/100M copper to 10G Base-X SFP+
- Supports auto-negotiation and 100Mbps and 1G/2.5G/5G/10Gbps full duplex model
- 16K jumbo frame size support
- Supports loopback test
- Supports Link Fault Pass-Through (LFPT)
- Supports USB console for set up status checking

18 ports Gigabit Media Converter Rack

FMC-1800

Features

- 1U 19" 18x 100/1000Base-T to 18x 100/1000Base-X SFP managed converter rack
- Auto MDI & MDIX/Auto-Negotiation in TP port
- Supports hot-swappable SFPs working at 100 Mbps and 1000Mbps
- Supports Web, Telnet, SNMP, Console Management
- Local configuration via USB port

8 / 17 ports Fiber Media Rack — FMC-CH08 / CH17

The FMC-CH17 is a 2U high 19" 17 slots chassis and the FMC-CH08 is a 2U high 10" 8 slots cassis. The FMC chassis provides an economic solution in low density fiber converter installations where no management features are required. Each FMC converter is an independent Ethernet to fiber or Ethernet to copper media converter that may be used as a standalone converter or placed in the FMC-CH17 or FMC-CH08 chassis. With two power supplies, the FMC-CH17 chassis supports redundant power from any of two power options while FMC-CH08 supports single power options. The AC supplies operate from (100-240VAC) and DC supplies operate from 18-60VDC. The built in cooling fan ensures that the temperatures in the rack remain within the tolerated working range.

► Slide in Module

FMC-2000MS

10/100/1000Base–T to 100/1000Base–X SFP Web Smart In-Band OAM Managed Switch

FMC-1001S

10/100/1000Base–T to 100/1000Base–X SFP Media Converter

FMC-10/100

10/100Base-TX to 100Base-FX Media Converter

FMC-10/100i

10/100Base-TX to 100Base-FX In-Band Managed Converter