XFS-5112

12 x 10G/1GBase-X SFP+

Layer 2+ Managed Switch

Description

The CTS XFS-5112 Layer 2+ Switch is engineered to provide high-performance, scalable network solutions for enterprise and data center environments. Featuring a non-blocking switch fabric with a capacity of 240Gbps, it ensures efficient, uninterrupted data transmission across your network. This switch combines powerful hardware with advanced redundancy protocols to support complex network configurations, providing seamless connectivity and superior reliability.

Interface

The XFS-5112 is equipped with 12 x 10/1GBase-X SFP+ fiber ports for high-speed connectivity, allowing for flexible fiber-based networking. Additionally, it includes a serial console port (RS-232 to RJ-45) for easy configuration and management, as well as a digital input for network automation, enhancing its utility in dynamic environments.

Product Highlights

XFS-5112 Layer 2+ Switch goes beyond traditional Layer 2 functionality by offering static routing, enabling enhanced routing capabilities within the network. Additionally, it supports MSTP (Multiple Spanning Tree Protocol) and ERPS (Ethernet Ring Protection Switching), providing robust network redundancy and fast recovery in case of failures. With these advanced features, the switch ensures high availability and scalability for complex network architectures, making it a perfect fit for modern networking needs.

Ideal Applications

This Layer 2+ Switch is perfect for data centers, enterprise networks, and high-traffic environments where reliability, security, and performance are critical. Its versatile VLAN and redundancy support make it an excellent choice for managing complex network topologies, while its robust security features ensure network integrity. Whether you're handling large-scale traffic or securing sensitive data, this switch can easily meet the needs of modern network infrastructures.

Key Features

■ **Static Routing for Smarter Traffic Management**

Enhance network efficiency with static routing, enabling seamless inter-VLAN communication and reducing reliance on external routers.

■ **Resilient Network with MSTP and ERPS**

Ensure uninterrupted connectivity with Multiple Spanning Tree Protocol (MSTP) and Ethernet Ring Protection Switching (ERPS), delivering fast recovery and network stability.

■ **High-Performance 10G Fiber Connectivity**

Equipped with 12 x 10/1G SFP+ ports, this switch provides flexible, high-speed fiber connectivity, making it ideal for enterprise networking and high-bandwidth applications.

■ **Comprehensive Security to Safeguard Your Network**

Advanced security features such as 802.1x authentication, DHCP snooping, and MAC-based access control protect against unauthorized access and network threats.

■ **Optimized VLAN and QoS for Traffic Control**

Support for 4K VLAN groups, Q-in-Q, and advanced QoS with 8 priority queues ensures efficient traffic segmentation and superior service quality for critical applications.

■ **Effortless Management and Monitoring**

Simplify network operations with intuitive management tools, including SNMP, Web GUI, CLI, and remote firmware upgrades for seamless configuration and monitoring.

■ **Smart Fan With Auto-Speed Control**

Besides high quality fan to enhance heat dissipation, Smart Fan can adjust fan speed according to temperature to have better control of the device's power consumption and noise.

■ **Targeted Applications**

• Ideal for enterprise networks, data centers, and service providers requiring high-speed, secure, and redundant connectivity for demanding business applications.

Specification

■ Interface

Fiber Port
- 12 x 10/1GBase-X SFP+

Console Port
- 1 x RS-232 to RJ-45 Serial Port

Terminal Block
- 1 x Digital Input (Dry Contact)

Standards
- IEEE 802.3ae 10GBase-R
- IEEE 802.3z 1000Base-X
- IEEE 802.3x Flow Control
- IEEE 802.3ad Link Aggregation
- IEEE 802.3ah OAM *
- IEEE 802.1ab LLDP
- IEEE 802.1p Priority
- IEEE 802.1q Tag VLAN
- IEEE 802.1d STP
- IEEE 802.1w RSTP
- IEEE 802.1s MSTP
- IEEE 802.1x Port-Based Network Access Control
- ITU-T G.8032 Ethernet Ring Protection Switching *

■ H/W Specification
- MAC Address Table: 32K
- Non-Blocking Switch Fabric: 240Gbps
- Throughput @ 64Bytes: 178.5Mpps
- Packet Buffer: 16Mbit
- Jumbo Frame: 12K Bytes
- Store and Forward Switching Mechanism
- Full/Half Duplex Mode Operation

■ LED
- Power, Status, COM, Link/Act/Speed

■ Ventilation
- Smart Fan
  1 x Speed Auto-adjusting Fan

■ Forward/Filter Rate
- 10G: 14,880,000/14,880,000pps
- 1G: 1,488,000/1,488,000pps

■ Layer 2 Switch Features

Port Management
- State, Description, Media Type, Port Type, Speed, Duplex and Flow Control

Network Redundancy
- IEEE 802.1d Spanning Tree Protocol (STP)
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
- Fast Ring v2/Chain Redundancy Protocols
- Static Port Trunking / Dynamic LACP Trunk Up to 6 Aggregation Groups, Max 8 Ports per Group
- ERPS*

VLAN
- IEEE 802.1q VLAN
  VLAN ID: 4094 IDs
  VLAN Concurrent Groups: 4K VLAN Groups
- Port-Based VLAN
- VLAN Translation
- Q-in-Q Double tag with Configurable Ether Type
- Selective Q-in-Q

QoS
- QoS based on 802.1p CoS and DSCP
- Scheduling Algorithm
  Weighted Round Robin (WRR)
  Strict Priority Queuing (SPQ)
- QoS Priority Queues: 8 Queues
- 802.1p P-bit & DSCP Remarking
- Port-Based Rate Limit (Ingress/Egress)

Multicast
- IGMP Snooping v1/v2/v3
- MLD Snooping v1/v2
- IGMP/MLD Fast Leave and Querier
- IGMP/MLD Snooping Group: 512/128 Groups
- IP Multicast Filter with Segment and Profile
- Static Multicast Group
- Multicast VLAN Registration (MVR)

IPv6 Feature
- IPv6 Over Ethernet (RFC 2464)
- IPv6 Addressing Architecture (RFC 4291)
- IPv6 Dual Stack (RFC 4213)
- ICMPv6 (RFC 4884)
- Path MTU Discovery for IPv6 (RFC 1981)
- Neighbour Discovery (RFC 4861)
- DHCPv6 Client

Layer 2 Protocol Tunnelling
- CDP, LLDP, STP, VTP, LACP, PAgP, UDLD

Access Control List
- Physical Port, Ether Type, MAC Address, VID, ToS/Traffic Class, Protocol Type, L4 Port and IP Address
- ACL Entries (IPv4: 128 Entries; IPv6: 64 Entries)

Advanced
- Static Routing *

■ Security
- 802.1x RADIUS Authentication
  802.1x Port Base Access Control
  802.1x MAC Authentication Bypass (MAB)
  RADIUS-Assigned VLAN with Fallback Support
- RADIUS/TACACS+ Authentication for login username/password
- DHCP Snooping and DHCP Server Trust Port
- DHCP Snooping Relay Agent
  DHCPv4 Option 82 with configurable Circuit and Remote ID
  DHCPv6 Option 37/18 with configurable Interface and Remote ID
- IP Source Binding
- IP Source Guard
- Port Isolation
- Port Link Flap
- Port Linkup Delay
- Storm Control (Unknown Unicast/Multicast, Broadcast)
- MAC Limiter
- Loop Detection

■ Management
- SNMP v1, v2c & v3 (Support Traps)
- Web (HTTP/HTTPS)
- CLI (Console/Telnet/SSHv2)
- SNTP with Daylight Saving Time
- Layer 2 Control Protocol Filter
- LLDP

Upgrade/Restore
- Firmware Upgrade/Downgrade
  HTTP/HTTPS/FTP/TFTP
  DHCP Auto-provision via DHCPv4 Option 60/43 & DHCPv6 Option 16/17
- Configuration Upload/Backup
  HTTP/HTTPS/FTP/TFTP
  DHCP Auto-provision via DHCPv4 Option 60/43 & DHCPv6 Option 16/17
- Auto configure backup
  FTP/TFTP

■ Maintenance

Diagnostic
- Port Mirror
- ICMP Ping
- Event log
- Syslog
- SFP SFF-8472 DDMI Monitor
  Temp/Voltage/TX Bias/TX Power/RX Power
- CPU Utilization/Temperature
- Memory Statistics
- Fan Speed
- System Voltage
- Digital Input (Normal Close/Open)
- Port Loopback Test *
- Ethernet OAM *

■ Power Requirement
- AC Input: 100~240V, 50/60Hz, 0.3~0.1A
- DC Input: 48V, 0.6A
- External DC Input: 12V, 3.33A (R7B adapter)
- Power Consumption: full-load < 28.8W (98 BTU/h)

■ Environmental Condition
- Operation: 0°C ~ 50°C
- Storage: -20°C ~ 60°C
- Humidity: 5% ~ 90%, Non-condensing

■ Dimension & Weight
- Size: 210 x 230 x 44 mm (W x D x H)
- Weight: 1.7 Kg
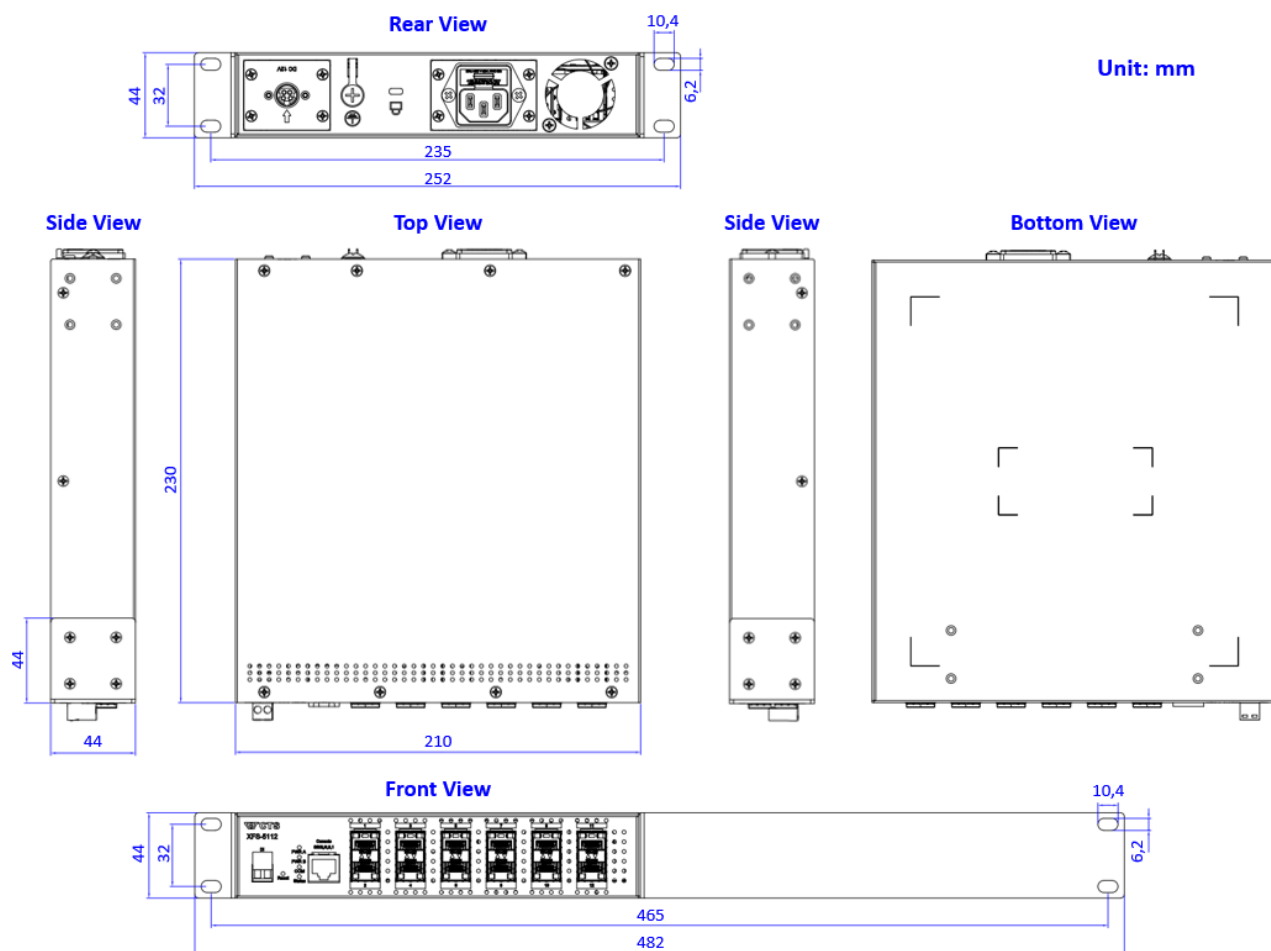
■ Standards and Certifications

CE/FCC Class A
- Safety: EN/IEC 62368-1
- EMC: EN 55032 / EN 55035
- ESD
  Air Discharge: +/- 8 kV
  Contact Discharge: +/- 4 kV
- EFT
  AC Input: +/- 1 kV
  DC Input: +/- 0.5 kV
- Surge Protection
  AC Input: +/- 2 kV
  DC Input: +/- 0.5 kV

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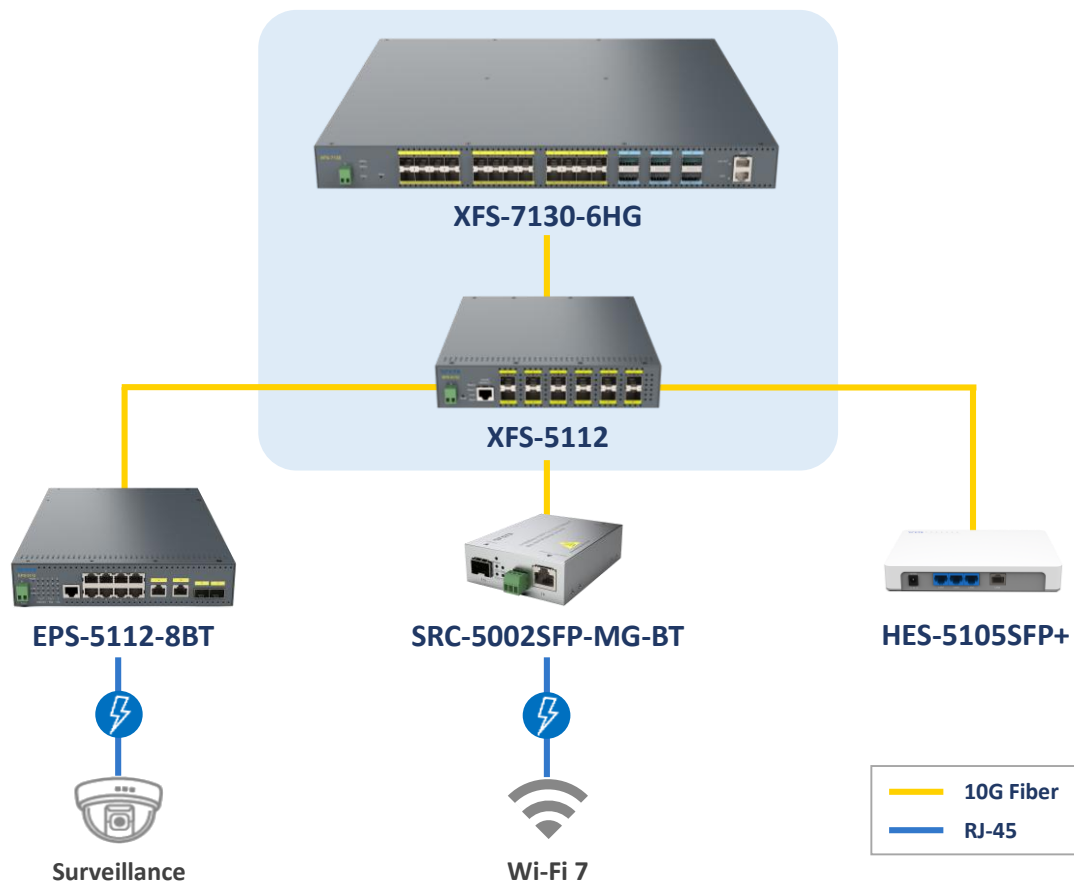
RoHS 2.0

* Coming soon

Dimension

Rear View

10,4

44 32

235

252

Unit: mm

6,2

Side View   **Top View**   **Side View**   **Bottom View**

44

230

44

44   210

Front View

10,4

44 32

XFS-5112

465

482

6,2

Application Diagram

XFS-7130-6HG

XFS-5112

EPS-5112-8BT   **SRC-5002SFP-MG-BT**   **HES-5105SFP+**

Surveillance   **Wi-Fi 7**

	10G Fiber
	RJ-45

Order Information

Model	Fiber Port			Support Power Source
	Speed	Type	Slots	
XFS-5112-1A	10G/1Gbps	SFP+	12	1 x Fixed Internal 100-240 VAC
XFS-5112-1D	10G/1Gbps	SFP+	12	1 x Fixed Internal 48 VDC
XFS-5112-1AE	10G/1Gbps	SFP+	12	1 x Fixed Internal 100-240 VAC + 1 x Fixed External 12 VDC (via R7B adapter)

Accessory

SFP-51

Model	Specification					
	Speed	Type	Connector	Distance	Wavelength	Operating Temperature
SFP-51FC	10Gbps	MM	LC	300M	850nm	0˚C~70˚C
SFP-51FC(SM-02/10/20/40)	10Gbps	SM	LC	2/10/20/40KM	1310/1310/1310/1550nm	0˚C~70˚C
SFP-51W2A(SM-10/20/40)	10Gbps	WDM	LC	10/20/40KM	TX: 1270/1270/1270nm RX: 1330/1330/1330nm	0˚C~70˚C
SFP-51W2B(SM-10/20/40)	10Gbps	WDM	LC	10/20KM	TX: 1330/1330/1330nm RX: 1270/1270/1270nm	0˚C~70˚C

SFP-31

Model	Specification					
	Speed	Type	Connector	Distance	Wavelength	Operating Temperature
SFP-31FC-DR	100/1000Mbps	MM	LC	550M/2KM	1310nm	0˚C~70˚C
SFP-31FC(SM-10)-DR	100/1000Mbps	SM	LC	10KM	1310nm	0˚C~70˚C
SFP-31W2A(SM-10/20)-DR	100/1000Mbps	WDM	LC	10/20KM	TX: 1310/1310nm RX: 1550/1550nm	0˚C~70˚C
SFP-31W2B(SM-10/20)-DR	100/1000Mbps	WDM	LC	10/20KM	TX: 1550/1550nm RX: 1310/1310nm	0˚C~70˚C
SFP-31FC	1000Mbps	MM	LC	550M	850nm	0˚C~70˚C
SFP-31FC(SM-10/20/40)	1000Mbps	SM	LC	10/20/40KM	1310/1310/1310nm	0˚C~70˚C
SFP-31W2A(SM-10/20/40)	1000Mbps	WDM	LC	10/20/40KM	TX: 1310/1310/1310nm RX: 1550/1550/1550nm	0˚C~70˚C
SFP-31W2B(SM-10/20/40)	1000Mbps	WDM	LC	10/20/40KM	TX: 1550/1550/1550nm RX: 1310/1310/1310nm	0˚C~70˚C

* SFP-31xxx-DR modules only support 1000Mbps on XFS-5112 Series.

Copper SFP

Model	Specification			Operating Temperature
	Speed	Connector	Distance	
SFP-50TP-MG(30M)	10Gbps	RJ-45	30M @ Cat 6A	0˚C~65˚C
	2.5/5Gbps		50M @ Cat 5E	
	1000Mbps		100M @ Cat 5E	
SFP-30TP	1000Mbps	RJ-45	100M	0˚C~70˚C

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