



## EPS-3112

8 x 10/100/1000Base-T RJ-45  
with 802.3af/at PoE+ +

4 x 10/100/1000Base-T RJ-45 /  
100/1000Base-X SFP  
(Combo)

Managed Gigabit Ethernet Switch

### Description

Connection Technology System (CTS) EPS-3112 Enterprise switch is a Gigabit Ethernet 10/100/1000Base-T to 100/1000Base-X switch with a robust metal casing. It switches the traditional twisted-pair RJ-45 cable into the most popular fiber optics media including multi-mode, single-mode, bi-directional WDM fiber transceivers. The fiber optics port of EPS-3112 can support connection distances from 550m to 20km depending on the selected SFPs.

The EPS-3112 enterprise switch can be easily managed by Web GUI, telnet CLI, and SNMP. To fulfill the requirement of mass deployment, the device also supports the auto-provisioning mechanism to allow the network managers to manage the device automatically and dynamically, allowing for the curtailing of the OPEX.

It is also designed to facilitate the deployment of SME networks by supporting various VLAN features such as port-based VLAN, Tag VLAN, and Q-in-Q. With these features, the service providers would be able to connect an SME's branches in different locations and form a kind of local area network. It also supports security features such as DHCP snooping, IP source guard, loop detection, and storm controls to create a stable network.

Regarding the PoE controls, EPS-3112 is designed with PoE scheduling, PoE quick control to ease the maintenance loading of the network managers, and at the same time supports PoE injector mode to ensure that power is delivered regardless of any kind of unexpected events.

- **Compatible with IEEE 802.3af/at PoE+**

The support of IEEE802.3af/at PoE+ standard enables safe transfer of electrical power and the transmission of digital data over Ethernet cable.

- **A Host of Management Interfaces**

Enhance the flexibility for the network operators to manage the equipment at ease in their networks with Web UI, Telnet, CLI, SNMP, and out-of-band console available.

- **Fanless Design**

EPS-3112 is a noise-free network switch without a built-in fan which, more often than not, results in constant annoying buzzing sounds. The feature therefore prevents the harmful effects of a noisy environment.

- **IPv4/IPv6 Dual Stack**

Able to run IPv4 and IPv6 in parallel and interoperable with other IPv4, IPv6, and dual-stacked devices, which enables IPv6 management, packet forwarding and MLD v1/v2 Snooping, and so deliver coexistence of great flexibility.

- **Security on Demand**

Essentials necessitated by what a stable network infrastructure entails such as DHCP Snooping, Port Mirror, Loop Detection, IP Source Guard, Storm Control, and MAC Address Limit.

## ■ Interface

- Downlink:
  - 8 x 10/100/1000Base-T RJ-45
- Uplink:
  - 4 x 100/1000Base-X SFP / 10/100/1000Base-T RJ-45 (Combo)
- 1 x RS-232 (RJ-45)

## ■ Standards

- IEEE 802.3 10Base-T
- IEEE 802.3u 100Base-TX/FX
- IEEE 802.3ab 1000Base-T
- IEEE 802.3z 1000Base-X
- IEEE 802.3az EEE
- IEEE 802.3x Flow Control
- IEEE 802.3ad Link Aggregation
- IEEE 802.1ab LLDP
- IEEE 802.1p Priority
- IEEE 802.1q Tag VLAN
- IEEE 802.1d STP
- IEEE 802.1w RSTP
- IEEE 802.1x Port-based Network Access Control
- IEEE 802.3af Power over Ethernet
- IEEE 802.3at Power over Ethernet Enhancements

## ■ H/W Specification

- MAC Address table: 8K
- Non-Blocking Switching Fabric: 24Gbps
- Memory buffer: 512K Bytes
- Jumbo Frame: 9K Bytes
- Store and Forward Switching Mechanism
- Auto-Cross Over for MDI/MDUX in TP Ports
- Auto-Negotiation in TP Ports
- Full/Half Duplex Mode Operation

## ■ LED

- Power, Link/Act, Sys, PoE Alert, PoE

## ■ Forward / Filter Rate

- 10M : 14,880/14,880pps
- 100M : 148,800/148,800pps
- 1000M : 1,488,000/1,488,000pps

## ■ Security

- 802.1x Port-based Access Control
- 802.1x RADIUS Authentication
- 802.1x MAC Authentication Bypass
- DHCP Option 82 Relay Agent
- DHCP Option 82 with configurable circuit & Remote ID
- DHCP Snooping
- IP Source Guard

## ■ Layer 2 Switch Features

### VLAN

- IEEE 802.1q tag VLAN with P-bit Marking
- VLAN Concurrent Groups: 2K VLAN Groups
- Port Based VLAN
- Q-in-Q Double tag with Configurable EtherType

### QoS

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

### Network Redundancy

- STP IEEE 802.1d
- RSTP IEEE 802.1w
- LACP Algorithm of Source / Destination IP, MAC , L4 Port
- Static Port Trunking
- Up to 6 Aggregation Groups, 8 Ports per Group

### Multicast

- IGMP Snooping v1/v2/v3
- IGMP Fast Leave
- MLD v1/v2 Snooping
- IP Multicast Filter with Segment & Profile
- Static Multicast Configuration

### IPv6 Feature

- IPv6 over Ethernet (RFC 2464)
- IPv6 Addressing Architecture (RFC 4291)
- IPv6 Dual Stack (RFC4213)
- ICMPv6 (RFC4884)
- Path MTU Discovery for IPv6 (RFC 1981)
- Neighbor Discovery (RFC4861)

### Access Control List

- ACL Based on Physical port, EtherType, VID, TOS/DSCP, Protocol Type, L4 Port and IP

## ■ Management

- SNMP v1/v2c/v3
- WEB/Telnet/SSH/CLI Interface
- Text-based CLI Configure file
- Port Configuration Speed/Duplex/Flow Control/Description
- NTP with Daylight Saving Time
- Layer 2 Control Protocol filter
- Static MAC Address Table
- MAC Limiters
- LLDP
- Storm Control
- Unicast/Multicast/Broadcast

## ■ Maintenance

### Diagnostic

- Port Mirror
- ICMP Ping
- Event Log
- Syslog
- SFP SFF-8472 DDMI monitor

### Upgrade/Restore

- HTTP/FTP/TFTP Firmware & Configuration Update
- DHCP Auto-provision via DHCP Option 60/43 for firmware and configuration upgrade

### Other

- Loop Detection

### Monitoring

- CPU and Memory Statistics
- Switch Port Status, Traffic, packet Error, Packet Analysis Statics

## ■ Power Requirement

- Input AC: 100V-240V 50/60Hz
- Power Consumption: 155W
- PoE Budget: 130W

## ■ Environmental Condition

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

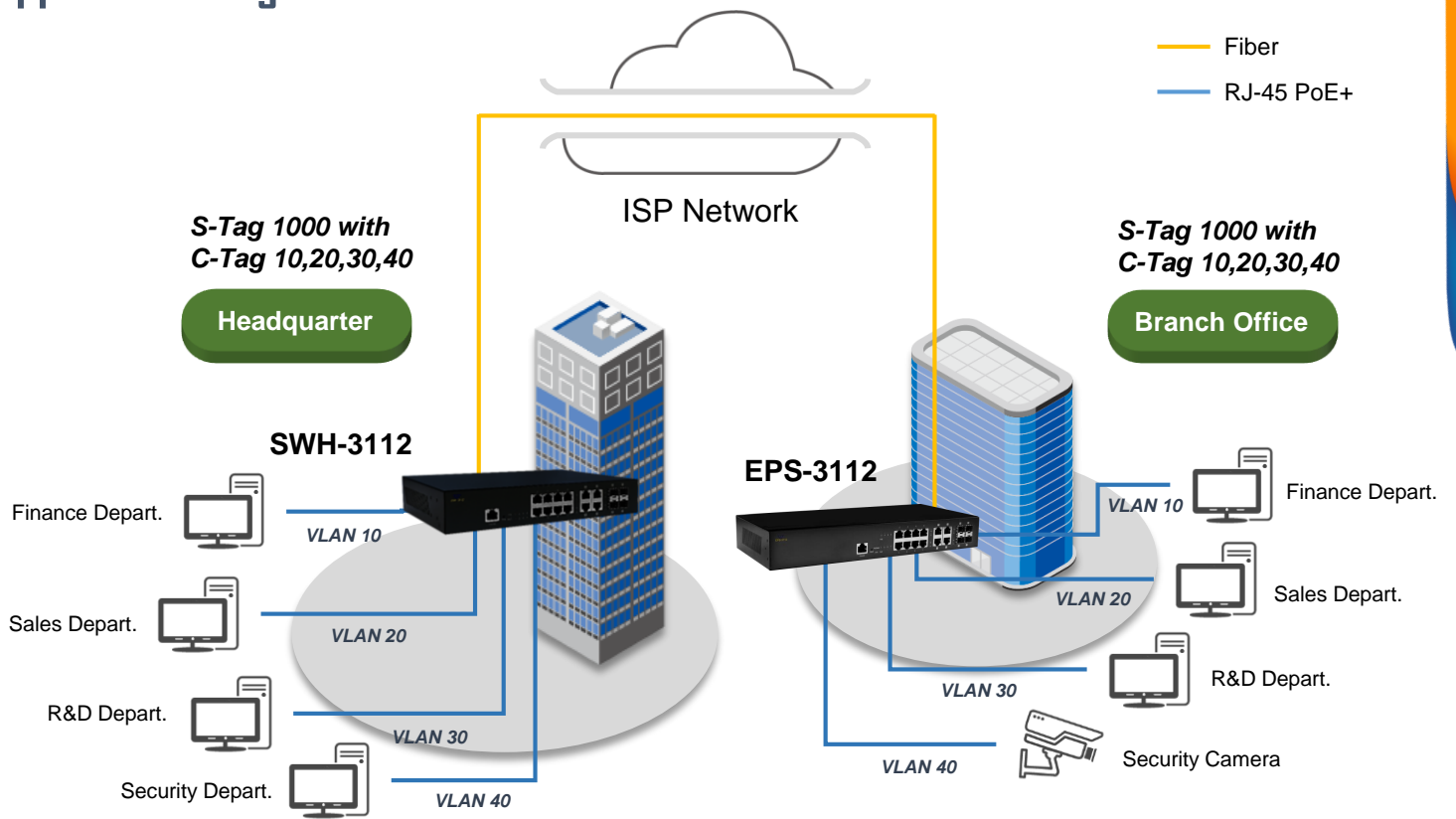
## ■ Dimension & Weight

- Size: 330 x 230 x 44mm (W x D x H)
- Weight: 1.5kg

## ■ EMC/Safety

- FCC Class A, CE

# Application Diagram



## Order Information

### EPS-3112

| Model    | Fiber Port   |      |           |          |      | TP Port      |      |         | Support Power Source |
|----------|--------------|------|-----------|----------|------|--------------|------|---------|----------------------|
|          | Speed (Mbps) | Type | Connector | Distance | Port | Speed (Mbps) | Port | PoE     |                      |
| EPS-3112 | 100/1000     | SFP  | -         | -        | 4    | 10/100/1000  | 8    | Support | Fixed 1 Internal AC  |
|          |              |      |           |          |      |              | 4    | -       |                      |

Connection Technology Systems (CTS) reserves the right to change specification without prior notice.

# Accessory

## SFP-31-DR

| Model                  | Fiber Port   |      |           |          |                                    |             |
|------------------------|--------------|------|-----------|----------|------------------------------------|-------------|
|                        | Speed        | Type | Connector | Distance | Wavelength                         | 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<br>RX: 1550/1550nm | 0°C~70°C    |
| SFP-31W2B(SM-10/20)-DR | 100/1000Mbps | WDM  | LC        | 10/20KM  | TX: 1550/1550nm<br>RX: 1310/1310nm | 0°C~70°C    |

## SFP-31

| Model               | Fiber Port |      |           |          |                                    |             |
|---------------------|------------|------|-----------|----------|------------------------------------|-------------|
|                     | Speed      | Type | Connector | Distance | Wavelength                         | Temperature |
| SFP-31FC            | 1000Mbps   | MM   | LC        | 550M     | 850nm                              | 0°C~70°C    |
| SFP-31FC(SM-10/20)  | 1000Mbps   | SM   | LC        | 10/20KM  | 1310/1310nm                        | 0°C~70°C    |
| SFP-31W2A(SM-10/20) | 1000Mbps   | WDM  | LC        | 10/20KM  | TX: 1310/1310nm<br>RX: 1550/1550nm | 0°C~70°C    |
| SFP-31W2B(SM-10/20) | 1000Mbps   | WDM  | LC        | 10/20KM  | TX: 1550/1550nm<br>RX: 1310/1310nm | 0°C~70°C    |