CTS
CONNECTION TECHNOLOGY SYSTEMS

EPS-5112
Series

8 x 10/100/1000Base-T RJ-45

with IEEE 802.3af/at/bt PoE++ Injector +

2 x 100M/1G/2.5G/5G/10GBase-T RJ-45 +

2 x 1/10GBase-R SFP+
Managed Layer 2 PoE Switch

User's Guide

Version 1.1

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FCC Warning

The EPS-5112 Series switch have been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These standards are designed to provide reasonable protection against harmful interference when these devices are operated in a commercial environment. These devices generate, use, and can radiate radio frequency energy and may cause harmful interference to radio communications unless installed in accordance with this User's Guide. Operation of these devices in a residential area is likely to cause harmful interference which will make the user responsible for the appropriate remedial action at his / her own expense.

CE Mark Warning

These are Class A products. In a domestic environment these products may cause radio interference in which case the user will need to consider adequate preventative methods.

1. Checklist

The item listed below should be included in the package:

- One set of the Managed Switch
- 19-inch rack-mounting kit:
  - 1 x Long mounting bracket
  - 2 x regular mounting brackets
  - Screws
- 4 x rubber feet with adhesive backing
- 1 x Console RS-232 cable with RJ-45 connector
- 1 x AC power cord
- Two-switch combine kit for 19-inch rack-mounting. (Optional)
  - 4 x L-shaped fixed pieces
  - Screws
- 19-inch rack-mount bracket. (Optional)
  - Screws

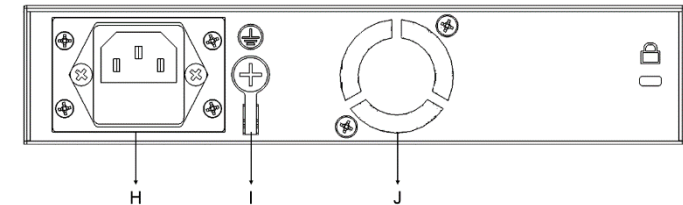Please contact your sales representative immediately if any items are missing or damaged.
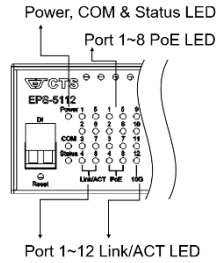
2. Appearance

2.1 Front Panel
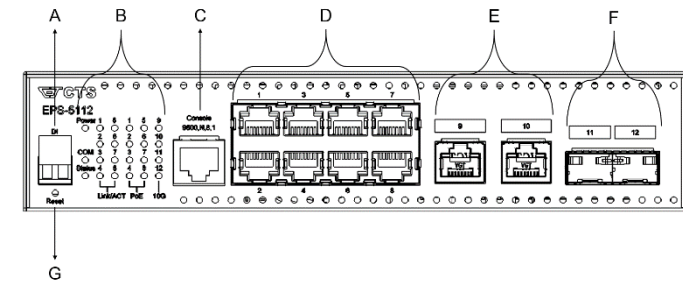
A	Digital Input (Dry Contact)
B	LEDs
C	Console Port
D	8 x 10/100/1000Base-T RJ-45 with IEEE 802.3af/at/bt PoE++ injector (Port 1-8)
E	2 x 100M/1G/2.5G/5G/10GBase-T RJ-45 (Port 9-10)
F	2 x 1/10GBase-R SFP+ ports (Port 11-12)
G	Reset Button

2.2 Rear Panel

H	Power module and AC Connector
I	Ground Screw
J	Smart Fan

2.3 LED Definitions

Power, COM & Status LED
Port 1~8 PoE LED
Port 1~12 Link/ACT LED

LED	Color	Operation
Power	OFF	No power exists or power is off.
	Green	The power is in normal operation.
	Orange	Power is not receiving power or fail.
Status	Green	The device is in normal operation.
	Orange	**Light on** when the device is currently booting up. *To restart the system, press and hold the Reset button for more than 5 seconds until the LED light on in orange, then release. **Blinks** when the device is resetting to default settings. *To reset to factory default settings, press and hold the Reset button for more than 10 seconds until the LED blinks, and release. Then system will restart with default settings.
COM	OFF	The console port is not activated or no session exists.
	Green	**Light on** when the console port is activated and the session exists.
Port 1~8 Link/ACT/ Speed	OFF	No link is established.
	Green	**Light on** when 10/100Mbps link is established.
		Blinks when the port is receiving and transmitting data at 10/100Mbps.
	Orange	**Light on** when 1000Mbps link is established.
		Blinks rapidly when the port is receiving and transmitting data at 1000Mbps.
		Blinks slowly, approximately once per second when a loop is detected while loop detection mode is enabled.
Port 1~8 PoE	OFF	The connected device is not a PoE powered device (PD).
	Green	**Light on** when the port is providing DC in-line power with IEEE 802.3af/at.
		Blinks when the port has output issue with auto IEEE 802.3af/at mode, such as: over per port budget, over total PoE budget, etc.
	Orange	**Light on** when the port is providing DC in-line power with IEEE 802.3bt, force or fix mode.
		Blinks when the port has output issue with auto IEEE 802.3bt, force or fix mode, such as: over per port budget, over total PoE budget, etc.
Port 9~12 Link/ACT/ Speed	OFF	No link is established.
	Orange	**Light on** when 100Mbps/1Gbps link is established. * Only port 9~10 support 100Mbps.
		Blinks rapidly when the port is receiving and transmitting data at 100Mbps/1Gbps. * Only port 9~10 support 100Mbps.
	Blue	**Light on** when 2.5/5/10Gbps link is established. * Only port 9~10 support 2.5/5Gbps
		Blinks rapidly when the port is receiving and transmitting data at 2.5/5/10Gbps. * Only port 9~10 support 2.5/5Gbps
		Blinks slowly, approximately once per second when a loop is detected while loop detection mode is enabled.

3. Installation

Basic Requirements
- Environmental conditions
  - One power outlet
  - Proper ventilation
  - Proper isolation to electrical noise, radio, etc.
- Required SFP/SFP+ Transceiver, fiber cable and RJ-45 cable
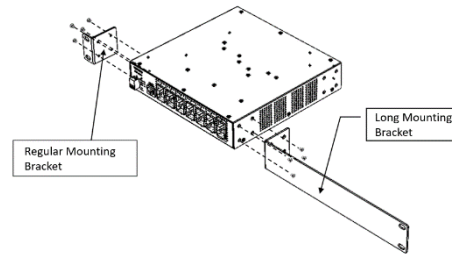- Rack mounting tools

CAUTION!
To prevent any damage or failure of the Managed Switch, please DO NOT block the ventilation holes.

3.1 Desktop Installation

Step 1. Attach rubber feet on the bottom at each corner of the device.
Step 2. Select a flat and steady surface to place the switch.
Step 3. Allow adequate space for ventilation between the device and the objects around it.

3.2 Rack Installation with One Managed Switch

Regular Mounting Bracket
Long Mounting Bracket

Step 1. Attach the provided regular/long rack mounting brackets to either the left or right side of the switch.
Step 2. Insert the screws (included in the rack-mount kit) through the bracket holes and into the bracket mounting holes on the switch.
Step 3. Tighten the screws to secure each bracket.
Step 4. Align the mounting holes on the brackets with the desired holes on the rack, then insert screws through each bracket and into the rack.
Step 5. Tighten the screws to secure the mounting brackets to the rack.
Step 6. Please ensure that the ventilation holes remain unblocked.

3.3 Powering up the Managed Switch

The Managed Switch can be used with AC power supply 100-240VAC, 50/60Hz, 2.5~1.2A. After the Managed Switch is turned on, the Power LED indicators should light in green color. For more details about the power LED description, please refer to Section 2.3 LED Definitions.

3.4 Connecting the Managed Switch to a Network

The Managed Switch has 10 RJ-45 ports and 2 SFP+ ports on the front panel. Ports 1~8 support RJ-45 cables up to 1000Mbps, while ports 9-10 support RJ-45 cables up to 10Gbps (Cat 6A or above). Uplink ports 11-12 are compatible with 1000Base-X SFP Fiber transceivers or 10GBase-R SFP+ Fiber transceivers. Please ensure that the fiber ports are connected in a matched configuration, i.e., Transmitter to Receiver and vice versa.

4. Operation

The following is a list of management options available on this Managed Switch, the Managed Switch will be refer to as "the network device" below:

Local Console Management
Users can establish a connection between a Terminal or PC running a Terminal Emulator program (such as Putty or Tera Term) and the network device by utilizing the RS-232 cable directly on the serial console port. This connection allows for system configuration, control, and monitoring. Commonly known as Out-Of-Band management, console management proves valuable in situations where there is no network connection to the network device, especially during the initial configuration of the network device.

Telnet Management
Upon establishing a network connection to the network device, users have the capability to employ Telnet for system configuration, control, and monitoring. This method of management via the network is commonly known as In-Band Management.

SNMP Management
SNMP, being another form of In-Band Management, necessitates a network connection to the network device. The private Management Information Bases (MIB) specific to the network device are made available for SNMP-based network management programs, enabling the configuration, control, and monitoring of the system.

Web Management
Upon the network device being accessible on the network, users can log in and remotely or locally monitor its status through a web browser. For local web management, particularly during the initial setup of the network device to configure the necessary IP, users can utilize the RJ-45 or SFP/SFP+ interfaces on the network device. To facilitate this management, a direct RJ-45 LAN cable connection between a PC and the network device is necessary. A converter may be additionally required when using the SFP/SFP+ interface.

5. Technical Specification

Standards	IEEE 802.3, IEEE 802.3u, IEEE 802.3ab, IEEE 802.3bz, IEEE 802.3an, IEEE 802.3z, IEEE 802.3ae, IEEE 802.3ad, IEEE 802.1ab, IEEE 802.1p, IEEE 802.1q, IEEE 802.1d, IEEE 802.1w, IEEE 802.1x, IEEE 802.3af, IEEE 802.3at, IEEE 802.3bt
Interface	-RJ-45 Port: 8 x 10/100/1000Base-T RJ-45 with IEEE 802.3af/at/bt PoE++ injector 2 x 100M/1G/2.5G/5G/10GBase-T RJ-45 -SFP+ Slot: 2 x 10GBase-SR/LR SFP+ Compatible with 1000Base-X transceiver -Console Port: 1 x RS-232 to RJ-45 serial port -Terminal Block 1 x Digital Input (Dry contact)
PoE	-Per PoE Port Budget: Support IEEE 802.3af/at/bt and up to 90W PoE output -Total PoE Budget: 200W
LED	Power, Status, COM, Speed/Link/Act, PoE
Power	Input AC: 100V ~ 240V 50/60Hz, 2.5~1.2A
Power Consumption	241W (822.32BTU/h)
Weight	2.3kg
Dimensions	210 x 290 x 44mm (W x D x H)
Temperature	Operation: 0˚C ~ 50˚C Storage: -20˚C ~ 60˚C
Humidity	Humidity: 5% ~ 90%, Non-condensing
Certification	CE/FCC Class A

Note: Specifications may change without prior notice. Please contact us for further reports and updates.

6. Default Logon Parameter

Username	admin
Password	No password (empty)
IP Address	192.168.0.1/24
Console	Speed: 9600, data: 8bit, parity: none, stop: 1 bit and flow control: none

7. Support and Resource

For technical support and access to the full documentation or product files, please visit our website's support page through the provided link below or by scanning the QR code located on the right side.

■ https://www.ctsystem.com/en/product/eps-5112-8bt/

Please scroll down the page to access the **download** section, where you can download the hardware manual, software manual, or MIB file of your choices.

Any queries and feedbacks are welcome, please feel free to contact us through email info@ctsystem.com.