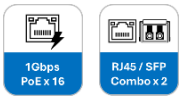
L2+ Managed PoE Switch

16-Port 10/100/1000M PoE and 2 Gigabit SFP/RJ45 Combo Ports (PoE 270W)

CMPS-16P21GC



- ☑ 16-Port 10/100/1000M PoE + 2 Gigabit SFP/RJ45 Copper Combo Ports
- ☑ IEEE 802.3at/af PoE, up to 30W per Port
- ☑ Layer 2+ Full Managed Software Features with MSTP, LACP, IGMP Snooping, LLDP, sFlow, 802.1X, RADIUS, TACAS+, and ACL
- ☑ DHCP Server/Relay/Snooping
- ☑ Voice VLAN for VoIP Devices
- ☑ PD Alive Check & PoE Scheduling
- ☑ Automatically adjust Fan Speed Function

Introduction

The CMPS-16P21GC is a 16-port 10/100/1000M PoE switch with 2 Gigabit SFP/RJ45 combo ports, designed to enhance the network connection in small to medium environments. The 16 PoE ports support IEEE 802.3at/af PoE technology, providing up to 30W per port with a maximum transmission distance of 100 meters. The switch is equipped with an AC to DC power module to support the PoE power budget. The two SFP/RJ45 combo ports support both 100m and Gigabit fiber transceivers for long-distance transmission. Additionally, the switch offers advanced Layer 2+ management software features for PoE control, network management, monitoring, and security, making it an excellent choice for optimizing network performance, efficiency, and high PoE power consumption.

IEEE 802.3at/af Power over Ethernet (PoE) Ports

This switch converts standard 100~240V AC power into low-voltage DC, which is delivered over existing LAN cables to power IEEE 802.3at/af compliant network devices. It includes PoE detection to ensure that power is only supplied to devices that support 802.3at/af, while data is transmitted to non-compliant devices. Adding this switch to your network simplifies the deployment and management of devices like access points, IP cameras, A/v extenders, etc.

2 Gigabit RJ45 Copper/SFP Combo Ports

The Switch features two Gigabit Copper/SFP combo ports, ideal for uplinks to servers, storage, or other devices, providing flexible long-distance transmission options.

Full Layer 2+ Management Features

The switch comes with comprehensive Layer 2+ management capabilities, offering features such as:

- Support for up to 4K 802.1Q VLANs, including advanced protocol VLANs, private VLANs, and MVR.
- Eight physical queues for Quality of Service (QoS).
- IPv4/IPv6 multicast filtering.
- Rapid Spanning Tree Protocol (RSTP) to prevent network loops.
- Multiple Spanning Tree Protocol (MSTP) for VLAN integration with spanning tree.
- LACP, LLDP, sFlow, port mirroring, cable diagnostics, and robust network security features.

It supports out-of-band management through the console CLI and in-band management via SNMP and a web-based GUI.

IGMP Snooping for AV-over-IP and KVM-over-IP Support

The CMPS-16P21GC is designed with IGMP Snooping to efficiently manage multicast traffic. This is essential for AV-over-IP and KVM-over-IP solutions, ensuring smooth transmission of multimedia streams and keyboard-video-mouse data without overloading the network. IGMP Snooping optimizes the flow of multicast data, directing it only to the intended recipients, thus improving network performance in environments where real-time streaming and IP-based device control are critical.

Advanced Security

The switch includes several advanced security measures, such as:

- HTTPS and SSH for secure management.
- Secure login passwords and configuration packets.
- Port binding, which restricts access to specific MAC addresses.
- 802.1X port-based access control, requiring user authentication before accessing the network.
- AAA (Authentication, Authorization, and Accounting) with RADIUS and TACACS+ server integration.
- Layer 2+ Access Control Lists (ACL) for defining access privileges based on IP address, MAC address, or port number.

PD Alive Check

With the PD Alive Check feature, the Switch can detect and monitor PoE-powered devices (e.g., IP cameras) via their IP addresses. If the switch does not receive a response from a device, it automatically performs a power cycle (turning PoE power off and then on) on the port, rebooting the connected device. Users can configure detection intervals, retry attempts, and the time period before a power cycle via the switch's PoE configuration page.

PRODUCT HIGHLIGHTS

Hardware View

CMPS-16P21GC

Front Panel

Rear Panel

Key Specifications

- 16-Port 10M/100M/1Gbps PoE+
- 2-Port 1Gbps RJ45/SFP Combo Ports
- IEEE 802.3at PoE+, up to 30W per port
- Internal Power (PSU)： 310W
- PoE Budget： 270W
- Operating Temperature： 0 ~ 50°C
- Dimensions (W x H x D)： 330 x 44 x 210 mm

Package Contents

① 1 × Managed PoE Switch

② 1 × Console Cable

③ 1 × Rackmount Kit

④ 1 × Power Cord

⑤ 1 × Quick Start Guide

PRODUCT SPECIFICATIONS

Interface		
10M/100M/1Gbps RJ45 Port		16
100M/1Gbps SFP and 1Gbps RJ45 Combo Port		2
Console Port for CLI Management		1
System Performance		
Packet Buffer		4Mb
NOR Flash Memory		16Mb
SDRAM Memory (DDR2)		128Mb
MAC Address Table Size		8K
Jumbo Frame		9KB
Switching Capacity		36Gbps
Forwarding Rate (64-byte)		26.784Mpps
PoE Features		
PoE Power Output		Per Port: IEEE 802.3af/at Max. 15.4W/30W
Number of PSE Port		16
PoE Type		Upper Ports (Port 1, 3... 13, 15) Mode A Lower Ports (Port 2, 4... 14, 16) Mode B
Max. Power Consumption		310W
Max. PoE Budget		270W
External/Internal Power		Internal Power
Power Feeding Detecting Capability on PD		●
PD Alive Check		●
PD Classification		●
PoE Scheduling		●
Power Management (Per Port)	Enable/Disable PoE Per Port	●
	Priority Setting Per Port	●
	Power Level Setting Per Port	●
	Overloading Protection	●
L2 Features		
Auto-Negotiation		●
Auto MDI/MDIX		●
Flow Control (Duplex)	802.3X (Full)	●
	Back-Pressure (Half)	●
Spanning Tree	IEEE 802.1D (STP)	●
	IEEE 802.1w (RSTP)	●
	IEEE 802.1s (MSTP)	●
VLAN	VLAN Group	4K
	Tagged Based	●
	Port-Based	●
	Q-in-Q	●
	Voice VLAN	Voice VLAN with OUI
Link Aggregation	IEEE 802.3ad with LACP	●
	Static Trunk	●
	Max. Static Aggregation Group	9
	Max. Port Per Static Aggregation Group	8

IGMP Snooping	IGMP Snooping v1/v2/v3	Supports 1024 IGMP groups
	IGMP Static Multicast Addresses	Supports 1024 static multicast addresses
	IPv6 MLD Snooping	Supports 1024 MLD groups
	MLD Static Multicast Addresses	Supports 1024 static multicast addresses
	Querier, Immediate Leave	●
Storm Control (Broadcast / Multicast / Unknown Unicast)		●
Loop Protection		●
QoS Features		
Number of Priority Queue		8 queues/port
Rate Limiting	Ingress	Yes, 1KBps/1pps
	Egress	Yes, 1KBps/1pps
DiffServ (RFC2474 Remarking)		●
Scheduling (WRR, Strict, Hybrid)		●
CoS	IEEE 802.1p	●
	IP ToS Precedence, IP DSCP	●
Security		
Management System Username / Password Protection		●
User Privilege		Set User Privilege up to 15 Level
Port Security (MAC-based)		●
IEEE 802.1x Port-based Access Control		●
ACL (L2/L3/L4)		●
IP Source Guard		●
RADIUS (Authentication, Authorization, Accounting)		●
TACACS+		●
HTTP & SSL (Secure Web)		●
SSH v2.0 (Secured Telnet Session)		●
MAC / IP Filter		●
L3 Features		
Static Route		●
Management		
Command Line Interface (CLI)		●
Web Based Management		●
Telnet		●
Access Management Filtering		SNMP / Web / SSH / Telnet
Firmware Upgrade via HTTP		●
Dual Firmware Images		●
Configuration Download / Upload		●
SNMP (v1/v2/v3)		●
RMON (1, 2, 3 & 9 groups)		●
DHCP (Client / Relay / Option 82 / Snooping / Server)		●
System Event / Error Log		●
TFTP (Trivial File Transfer Protocol)		●
NTP / LLDP		●
Cable Diagnostics		●
IPv6 Configuration		●
Port Mirroring		●
Virtual Stacking – Virtual Host allowing management of all switches via 1 set of IP address		●
e-Spider – Allows searching and setting the switches located on the LAN		●

Physical Characteristics	
Dimension (W x D x H)	330 x 210 x 44 mm
Reset Button	N/A
LED	Power, Link/Act, PoE
Cooling	Fan Cooling
Enclosure	Metal
Installation	Desktop / Rackmount
Weight	3.5 Kg
System Power Requirement	
System Power Input	44 – 57 VDC
Max. System Power Consumption	30W
Power Supply Information	
Internal Power Supply	Input: 100-240V, 50/60Hz, 5.0A Max.
	Output: 54 VDC / 5.74A, 310W Max.
Environment Limits	
Operating Temperature	0 ~ 50°C
Storage Temperature	-10 ~ 70°C
Operating Humidity	10 ~ 90% (non-condensing)
Storage Humidity	10 ~ 90% (non-condensing)
Certifications	
Electromagnetic Emissions (emc)	CE, FCC, UKCA
Safety	EN62368-1
Protection	
ESD	DC Contact 4KV, Air 8KV
Surge	AC Line to Line 1KV, Line to Ground 2KV
Standard	
IEEE 802.3 – 10Base-T	●
IEEE 802.3u – 100Base-TX	●
IEEE 802.3ab – 1000Base-T	●
IEEE 802.3z – 1000Base-SX/LX	●
IEEE 802.3af Power over Ethernet (PoE)	●
IEEE 802.3at Power over Ethernet (PoE+)	●
IEEE 802.3az – Energy Efficient Ethernet (EEE)	●
IEEE 802.3x – Flow Control	●
IEEE 802.1Q – VLAN	●
IEEE 802.1v – Protocol VLAN	●
IEEE 802.1p – Class of Service	●
IEEE 802.1D – Spanning Tree	●
IEEE 802.1w – Rapid Spanning Tree	●
IEEE 802.1s – Multiple Spanning Tree	●
IEEE 802.3ad – Link Aggregation Control Protocol (LACP)	●
IEEE 802.1ab – LLDP (Link Layer Discovery Protocol)	●
IEEE 802.1X – Access Control	●