User manual



PS2024G

24 Port Gigabit Layer 3 PoE Switch

Installation manual introduction

The Product installation manual mainly describes PS2024GPoE switch hardware features, installation methods, and precautions during the installation

This manual includes the following chapters:

Chapter 1: Product Introduction. Briefly describes the basic features, Detailed hardware & software specifications of the switch and the appearance details.

Chapter 2: Product Installation. Guide the switch hardware installation methods and precautions.

Chapter 3: Hardware Connections. Guide the connection between switches and other devices and precautions.

Chapter 4: Packaging and product usage suggestions.

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Chapter 1: Product Introduction

1.1 Products description

PS2024G is managed PoE switch for security transmission and WIFI coverage, meet the need of PoE power supply for WIFI AP, IP-camera, WIFI bridge, IP phones and other types of equipment. New generation of high-performance hardware and software platforms are used, providing flexible, cost-effective full Gigabit access and uplink ports, complete security mechanisms, improved ACL / QoS strategy and rich VLAN capabilities. It is easy to manage and maintain, meet the users' requirements for network equipment easy to manage, high security and low cost. Support Apollo Cloud platform. It is suitable for network access, aggregation and core applications in campus, hotel and enterprise campus.

1.2 Product Features

- Full Gigabit Port

24 1000Mbps RJ45 ports (support PoE power supply) with 4 Gigabit SFP ports, Data transmission is not jammed.

- Broadcom chip, the performance is more stable and powerful

Realtek high-performance chip can greatly improve network data processing rate

- Convenient operation
  - AI VLAN mode: Separating 1-8 ports from each other, can effectively restrain network storm and improve network performance.
  - AI Extend mode: Designed for monitoring application scenarios, 1-8 ports support 250 meters long distance power supply.
  - AI PoE mode：automatically check, reboot the device while find it fake dead
  - AI QoS mode：video data first, more fluent transmission
- Support Apollo Cloud Platform One-stop Management

Support cloud platform for resource visualization management of switches and downloaded PD devices, make operation and maintenance management easy

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1.3 product specification

Hardware Specifications

Chipset	BroadcomHigh Performance Chipset
Flash	16MB
RAM	256M DDR
Port	24 10/100/1000Mbps RJ45 ports
	4 Gigabit SFP ports
	1 Console port
PoE	24 10/100/1000Mbps RJ45 port support PoE+
	Max 400W
	Single port max 46W
LEDs	28 Link/Act LEDs
	24 POE LEDs
	1 Power LED
	1 SYS LED
Performance	Forwarding mode: store and forward
	Switch Volume (Full-duplex) : 56Gbps
	Packet forwarding rate : 41.66Mpps
	16K MAC address table
lightning protection	±4KV
ESD	No barrier: ±6KV Air : ±8KV

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Input	100-240V/50-60Hz
Dimension （L×W×H）	440mm×320mm×44mm

Software Specifications

Network standard	IEEE 802.3: Ethernet Media Access Control (MAC) protocol IEEE 802.3i:10BASE-T Ethernet IEEE 802.3u:100BASE-TX fast Ethernet IEEE 802.3ab:1000BASE-T gigabit Ethernet IEEE 802.3z:1000BASE-X gigabit Ethernet（fiber） IEEE 802.3ad: comply link aggregation standard IEEE 802.3x: flow control IEEE 802.1p: About the traffic priority of the second layer of Qos / Cos protocol (multicast filtering) IEEE 802.1q:VLAN Bridge operation IEEE 802.1d:STP spanning tree IEEE 802.1s:MSTP spanning tree IEEE 802.1w:RSTP spanning tree IEEE 802.3af IEEE 802.3at
Shortcut function	One key VLAN

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	One key Exnted(1-8 port 250meters PoE distance)
	One key QoS (Video priority)
	One key AI power supply
Watchdog	support
Flow statistics	support
Port Energy Saving	Support
DHCP	Support DHCP server
	Support DHCP Relay
	Support DHCP Snooping
Route	Support RIP V1/V2 Dynamic routing
	Support static routing
	OSPFv2、OSPFv3
VLAN	Support 4K VLAN
	Support 802.1Q VLAN、Port VLAN、Voice VLAN
MAC address table	Comply the IEEE 802.1d standard
	Support MAC address learning and aging automatically
	Support static, dynamic, filter address table
Safety	Password protection

	Support based on the port number, IP address, MAC address restrictions on user access
	Support HTTPS、SSL V3、TLS V1、SSH V1/V2
	Based on user rating management and password protection
	Support IP-MAC-PORT
	Support ARP protection, IP sources protection, DoS protection
	Support DHCP Snooping、DHCP attack protection
	Support 802.1X AAA
	Support port security, port isolation
	Support CPU protection
PoE	Support setting the PoE port priority
	Support viewing POE Chip Status
	Support setting PoE power supply period
	Support setting port power
Access control (ACL)	Support L2(Layer 2)～L4(Layer 4) packet filtering function
	Support port mirroring, port redirection, flow rate limit, QoS re-marking

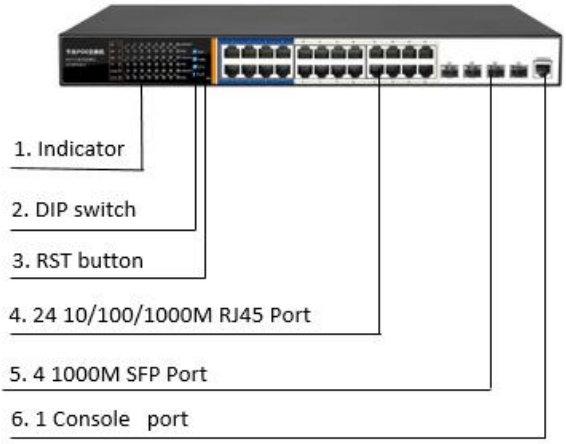
QoS	Support 8 port queue
	Support port priority, 802.1p priority, DSCP priority
	Support SP、RR、WRR、WFQ Priority scheduling algorithm
	Support automatically identify, manage and acquire of connected equipment information
Multicast	Support IGMP v1/v2 Snooping
	Support static multicast
	Support multicast VLAN
	Support multicast filtering, message statistics, unknown multicast discarding
Spanning Tree	Support STP(IEEE 802.1d)，RSTP(IEEE 802.1w) and MSTP(IEEE 802.1s) protocol
	Support loop protection, BPDU protection
Storm suppression	Support for multicast suppression
	Support broadcast suppression
	Support for unknown unicast suppression
Link aggregation	Support static aggregation

	Support dynamic aggregation
	Support IP, MAC, hybrid load balancing mode
	Supports up to 32 aggregation groups
IPv6	Support IPv6 Ping、IPv6 Tracert、IPv6 Telnet
	Support IPv6 SSH 、IPv6 SSL
Management and maintenance	Support WEB management (HTTP、HTTPS、SSL V3)
	Support CLI (Telnet、local serial port)
	Support SNMP V1/V2/V3
	Support LLDP、RMON
	Support ARP Protection, IP Source protection、DoS protection
	Support CPU monitor、memory monitoring
	Support system log
	Support Ping, Tracert detect cable testing

1.4 Appearance

Front Panel

Including indicators, RJ45 port, DIP switch, RST button, SFP port, CONSOLE port, as shown below



✧ indicator

PS2024G The indicator working status is shown as the following table

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Indicators	Title	Color	Work status	Description
POWER	Power indicator	Red	Solid	Power is normal
			Off	No power, the power switch is not turned on, power supply is abnormal
POE	POE power indicator	Yellow	Solid	The corresponding RJ45 port is connected to the powered device and the power supply is normal
			Off	The corresponding RJ45 port is not connected to the powered device or the power supply is abnormal
LINK/ACT	Connection indicator	Green	Blinking	A valid link is established
			Off	An invalid link is established
SYS	System	Green	Blinki	System is functioning

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	indicator		ng	properly
			Off	System is functioning improperly Software is damaged
G1-4	SFP indicator	Green	Blinking	A valid link is established on the SFP port
			Off	An invalid link is established on the SFP port

✧ Shortcut button

QoS: Improve video data processing capabilities and improve the monitoring of Caton and Mosaic phenomena in the network

Extend: 1-8 port rate down to 10Mbps, but the transmission distance up to 250 meters

VLAN: Isolating ports 1-8 from each other, suppress network storms effectively and improve network performance

AI power supply: Detect PD, power failure and restart dead equipment

✧ RJ45 Port

PS2024G with 24 10/100/1000Mbps PoE port, all

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ports support IEEE802.3af and IEEE802.3at standard

When the switch mode of operation is CCTV mode, 1-8 port can support 250 meters power supply

- SFP Port

PS2024G provides 4 Gigabit SFP optical ports (SFP1, SFP2), can be inserted into the Gigabit SFP module

- RST Button

When the switch is powered on, press the button with the needle to release the device and enter the restarting state. When the SYS lamp restarts, the device restarts. When the switch is powered on, press and hold the button for more than 5s to release the button and enter the reset state. When SYS is re-lit, the device is reset successfully

- Console port

Console port used to connect to computer or other terminal to manage or configure the switch.

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Back Panel

Including: power socket, power switch, ground terminal



- Power socket

  A 100-240VAC 50/60 Hz power receptacle for accommodating the supplied power cord

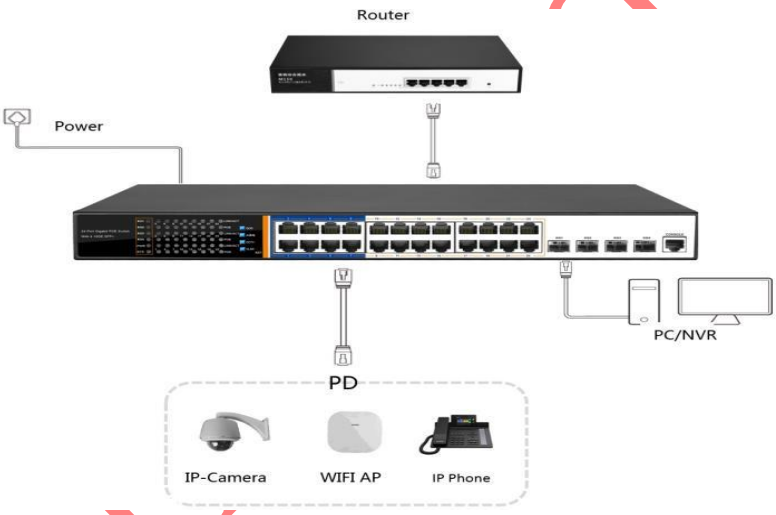
- Ground terminal

  Please use the grounding wire to prevent lightning. To avoid product lightning strikes and extend product life

Chapter2 Hardware connection

2.1 RJ45 port connection

Connect the RJ45 port of the switch and the corresponding network device via cables, the POE power supply function of the switch is default enabled on the downlink port of the switch, which can be used for IEEE802.3af or IEEE802.3at standards powered devices such as APs, bridges, and network cameras



Note：

When the switch connected workstations, servers, routers or other ethernet devices the cable length should be within 100 meters;

The Auto-MDI / MDIX ethernet interface is enabled by default. Category 5,the standard network cable or crossover cable can be used for Ethernet connection.

Do not connect the RJ45 port to the phone line

2.2 SFP Port connection

PS2024G SFP port only support Gigabit fiber module.

Recommended use of standard SFP module products

The process of installing a fiber module on a switch is as follows:

1、grasp the optic fiber module from the side, insert it smoothly along the SFP port slot until the optic fiber module and switch are in close contact;

2、confirm the Rx and Tx ports of the fiber module when connecting, insert one end of the fiber into the Rx and Tx ports correspondingly, ensure that the Tx and Rx ends of the interface are connected correctly and the other end of the fiber is connected to another device;

3、 please check the corresponding indicator light status after power on. If the light blinking that the link is properly connected, if the light is off , the link is failure, please check the line to confirm that the corresponding equipment is enabled.

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⚠ Note :

DO NOT excessive bending fiber, the radius of curvature should not be lessthan 10cm;

Ensure the cleanliness of the fiber surface;

Please DO NOT look directly into the optical fiber connector with your eyes as this may cause eye injury

2.3 Check before power on

Check whether the outlet power supply meets the switch specifications;

Check the power, switches, racks and other equipment have been properly grounded;

Check whether the switch and other network devices are connected properly

2.4 Device initialization

The switch automatically initializes when the power switch is turned on.

Indicator will appear the following situation:

After the power is turned on, the power indicator remains on, the other indicator is off at this time;

After about 1 second, all lights except for the power light turn on for about 35 seconds and then turn off; when the SYS light goes flashing, the system runs normally

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Port LEDs indicates the connection status of each port, indicating that the switch has started to work normally

Chapter3 Installation

3.1 Installation Precautions

⚠ Note：To avoid improper use of equipment damage and personal injury, please observe the following precautions

■ Installation safety precautions

- The power should be kept off during the installation, while wearing anti-static wrist, and to ensure well touch between anti-static wrist and skin to avoid potential safety hazard;
- The switch just works normally when it is powered by the correct power supply. Make sure that the power supply voltage matches the voltage indicated by the switch
- Before powering on the switch, make sure that the power circuit is not overloaded, which may affect the normal operation of the switch and even cause unnecessary

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damage

- To avoid the risk of electric shock, do not open the case while the switch is working. Do not open the case even when it is not powered
- Before cleaning the switch, unplug the switch from the power cord and do not wipe it with wet cloth. Do not wash it with liquid

■ Temperature and humidity

To ensure the long-term stability working of the switch , please maintain a certain temperature and humidity environment. High or low humidity easily lead to leakage of insulation materials, deformation and even the corrosion of metal parts, the temperature is too high will accelerate the aging process of insulating materials, seriously affecting the service life of equipment. The normal operation of this series of switches and storage temperature / humidity are as follows

Environmental description	temperature	Relative humidity
Working environment	0℃~40℃	10%～90% RH no condensation
Storage environment	-40℃～70℃	5%～90% RH no condensation

■ Altitude

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Products with this logo are only for safe use in areas below 2000m altitude

- Dust-proof

Dust on the switch surface will cause electrostatic adsorption, poor contact of the metal contacts. Although the device itself has done some measures in anti-static, but when the static electricity exceeds a certain intensity, it will still cause fatal damage to the electronic components on the internal circuit board.

In order to prevent static electricity from affecting the normal operation of the equipment, please note the following:

1. Regular dust, keep the indoor air clean;
2. Make sure the equipment is well grounded to ensure smooth transfer of static electricity

- Electromagnetic interference

Electromagnetic interference have an impact on the device capacitance, inductance and other electronic components by capacitance, inductive coupling, impedance coupling and other conductive, in order to reduce the adverse effects caused by electromagnetic interference, please note the following :

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1. Power supply system to take the necessary anti-grid interference measures;

2. Switches should be far away from high-frequency high-power, high-current devices, such as wireless transmitters;

3. If necessary, take electromagnetic shielding measures

- Lightning protection

When a lightning strike occurs, a strong current will be generated in an instant cause fatal damage to electronic equipment. To achieve better lightning protection, please note the following：

1. Make sure the rack and the ground to maintain good contact;

2. Make sure the power outlet is in good contact with the earth;

3. Reasonable wiring, to avoid the internal sense ray;

4. Outdoor wiring, it is recommended to use the signal lightning protection device

- Installation desk requirement

Regardless of whether the switch is installed in a rack or on another horizontal workbench, be aware of the following:

1. Make sure the rack or workbench is stable, strong, and can withstand at least 5.5Kg weight;

2. Make sure the rack has a good cooling system, or

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maintain good indoor ventilation;

3. Make sure the rack is well grounded, the power outlet and switch are within 1.5 meters

■ Prepare tools for installation

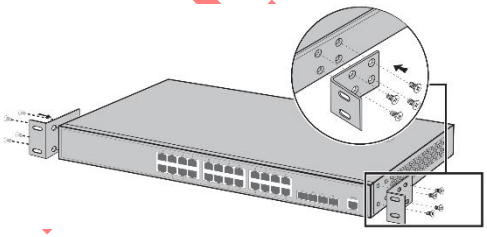
You may need to use a screwdriver during installation, electrostatic wrist strap, fiber optic cable and other tools to prepare your own

3.2 Installation method

PS2024G supports desktop mounting and rack mount.:

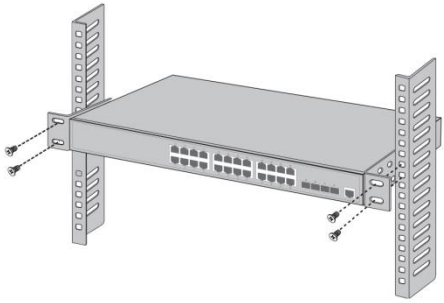
1、 Check rack grounding and stability ;

2、Install the two L-brackets in the accessory on each side of the switch panel and secure with the screws provided in the accessory



3、place the switch in an appropriate place in the rack and be supported by the bracket. Screw the L-shaped bracket to the guide groove fixed on both ends of the rack to ensure that the switch is stable and horizontally installed on the rack

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Note：

Good grounding rack is anti-static equipment, anti-leakage, lightning protection, anti-jamming important guarantee, so to ensure that the rack ground wire properly installed;

Installation equipment within the rack from the bottom up, to avoid overload installation;

Avoid placing other heavy objects on switch to avoid accidents;

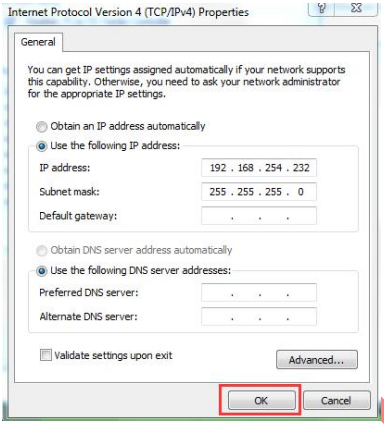
Ensure heat dissipation and air circulation.

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3.3 Web Login

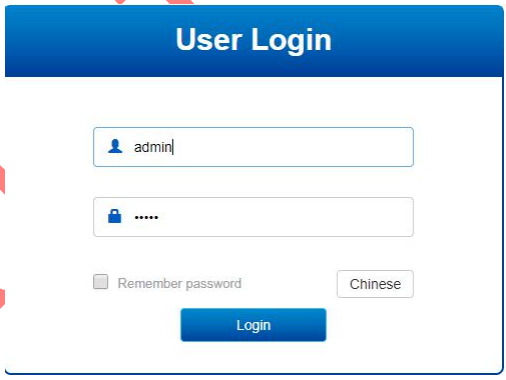
Step1、 In the normal operation of the device, connect the computer to the switch's RJ45 port by network cables

Step 2、 Manually changed the computer IP address to 192.168.254.X (X is 2 ~ 254), subnet mask is 255.255.255.0

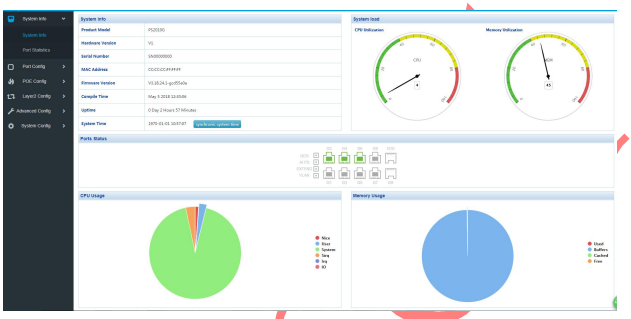


Step3、Open computer's browser, type 192.168.254.1 in the address box, hit the Enter key

Step4、Enter the default username and password “admin” and then click Login



Step5、Entered the switch web management interface successfully when you see picture as below, you can begin to configure the switch



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Chapter 4: Packaging and product usage suggestions

4.1 Open the package carefully check the following list

Commodity	Quantity	Description
PoE switch	1pcs	No
Power cord	1pcs	Optional
Bracket	2pcs	Fixed on rack mount
After-sale service card	1	Used for after-ale service
User manual	1pcs	Guide users to install switch

4.2 Suggestions

1. For safety reasons, non-professionals should not open the product casing;

2. Pay attention to the danger of strong electricity and safe protection when the product is powered on;

3. Please select the correct power adapter to supply power to the switch. Confirm whether it matches the switch requirements before use.

4. Do not use the switch in a humid environment to prevent water from entering the fuselage through the casing, resulting in damage to the machine;

5. Please turn on the power after the line connection is completed;

6. When the product is powered on, please do not plug or unplug the cable except for special circumstances.

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7. Do not use the switch in places with excessive dust and electromagnetic radiation. Do not use the switch in a place with high temperature and no ventilation;

8. Please do not place heavy objects on the switch to avoid accidents;

9. According to the IEEE802.3AF/AT standard, the transmission distance can reach 100 meters by using Category 5 or above wires;

10. When connecting a switch to multiple PDs, be careful not to exceed the maximum output power of the switch POE.

11. It is recommended to use the switch indoors. It is recommended to add a waterproof box when using it outdoors.

12. Considering that the network cable is too long may result in inaccurate data detection. AI Extend and AI PoE cannot be used at the same time.

Note: The pictures in the manual are for reference only, whichever is subject to the actual product.

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