

User Manual

S-24GE-M-2UG-400W-AI-VLAN

24 Port Gigabit Layer 2 Managed AI PoE Switch



Installation manual introduction

The Product installation manual mainly describes S-24GE-M-2UG-400W-AI-VLAN AI PoE 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 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: Technical Specifications.



NOTE: To avoid potential device damage and personal injury, read the related information in this manual before installing the device.

Agreement

The term "switch" mentioned in this manual, unless otherwise specified, refers to 24-port full Gigabit Managed AI PoE switch, hereinafter referred to as S-24GE-M-2UG-400W-AI-VLAN.

Some pictures for the schematic, the product itself and pictures may be different.

The contents of this document may be updated from time to time due to product version upgrades or other reasons. Unless otherwise agreed, this document is provided as a guide only, and all statements, information and recommendations in this document do not constitute any form of warranty.



This icon indicates the items to be cautioned in the operation. If the operation is wrong, the equipment may be damaged and other adverse consequences.

Chapter 1 Product Introduction

1.1 Product Introduction

S-24GE-M-2UG-400W-AI-VLAN is Layer 2 Managed AI PoE switch designed for security transmission and WIFI coverage. It can satisfy the POE power supply requirements of WIFI AP, IP camera, WIFI bridge, IP phone and other types of equipment. The product adopts a new generation of high-performance hardware and software platform to provide flexible, cost-effective access and Gigabit uplink ports, complete security protection mechanism, complete ACL/QoS policy and rich VLAN functions, easy to manage and maintain, and satisfy users' requirements for network equipment easy to manage, high security and low-cost , it is applicable for network access, aggregation, and core application scenarios of campus, hotel, and enterprise campus.

PoE (Power over Ethernet) refers to the power over Ethernet technology. It refers to the transmission of data signals to some IP-based terminals (such as IP phones, wireless access point APs, network cameras, etc.) and also provide

DC power supply technology. These devices that accept DC power supply are called powered devices (PD, Powered Device)

1.2 Packing List

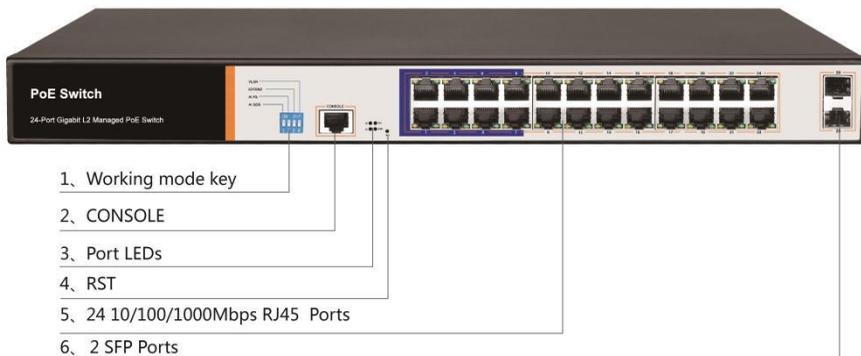
Open the package and check the list below

Commodity	Quantity	Description
PoE switch	1 pc	No
Power cord	1 pc	Optional
Bracket	2 pcs	Fixed on rack mount
User Manual	1 pc	Guide users to install switch

1.3 Appearance

■ Front Pannel

Indicators, RJ45 port, shortcut buttons, RST button, SFP port, CONSOLE port, as shown in Figure as below:



✧ **Indicators**

S-24GE-M-2UG-400W-AI-VLAN The indicator working status is shown as following table:

Indicator	Title	color	Work status	Description
PWR	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 indicator	green	Blinking	System is functioning properly
			off	System is functioning improperly Software is damaged

✧ **DIP switch function**

AI 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 1-24 from each other, suppress network storms effectively and improve network performance.

AI Power Supply: Detect PD, power failure and restart dead equipment.

✧ **RJ45 Port**

S-24GE-M-2UG-400W-AI-VLAN supports 24 10/100/1000 Mbps ports, all supporting IEEE802.3af and IEEE802.3at standard POE power supply.

✧ **SFP Port**

S-24GE-M-2UG-400W-AI-VLAN provides 2 Gigabit SFP optical module expansion slots (25, 26) for plugging Gigabit SFP modules

✧ **RST Button**

When the switch is powered on, press the button with needle and release the device to enter the restart state. When the SYS light is turned on again, the device restarts. When the switch is powered on, press the button for 5 seconds or more to release the button device to enter the reset status, when SYS lights up again, the device resets successfully. .

✧ **Console Port**

The Console port is used for connecting to the serial port of a computer or other terminal to manage or configure the switch. .

■ **Back Panel**

Includes: power socket, ground



✧ **Power socket**

The power supply to the switch S-24GE-M-2UG-400W-AI-VLAN should be 100-240V~ 50/60Hz AC power.

✧ **Ground terminal**

Please use a wire to ground so that preventing lightning strikes, to avoid product lightning strikes and extend the life of the product.

Chapter 2 Product Installation

2.1 Installation Precautions



Note: To avoid damage to the equipment and personal injury caused by improper use, please observe the following precautions.

■ **Installation safety precautions**

- The power is kept off during the installation process. Wear an ESD-preventive wrist strap and ensure that the ESD-preventive wrist strap is in good touch with the skin to avoid potential safety hazards.

- The switch can work normally under the correct power supply. Please confirm that the power supply voltage matches the voltage indicated by the switch.
- Before powering on the switch, please make sure that the power circuit is not overloaded, so as not to affect the normal operation of the switch and even cause unnecessary damage.
- To avoid the risk of electric shock, do not open the case while the switch is working, even if it is not charged, do not open it by yourself. Before cleaning the switch, pull out the power plug of the switch.

Do not wipe with a moist fabric. Do not use liquid to clean.

◇ **Temperature and humidity**

In order to ensure long-term stable operation of the switch and prolong its service life, please maintain a certain temperature and humidity in the environment. Excessively high or too low ambient humidity may cause leakage, deformation or even corrosion of metal parts. If the temperature is too high, the aging process of the insulation material will be accelerated, which will seriously affect the service life of the equipment. Normal operation and storage temperature / humidity of this series of switches as below:

Environmental Description	Temperature	Relative humidity
Working Environment	0°C~40°C	10% ~ 90% RH Non-condensing
Storage Environment	-40°C ~ 70°C	5% ~ 90% RH Non-condensing

◇ **Altitude**

Products with this mark are only suitable for safe use in areas below 2000m.



✧ **Dust-proof**

Dust falling on the surface of the switch can cause electrostatic adsorption and poor contact of the metal contacts. Although the device itself has made certain measures in anti-static, when the static electricity exceeds a certain strength, it will still cause fatal damage to the electronic components on the internal circuit board. To avoid the static electricity affecting the normal operation of the device, please pay attention to the following:

Regular dust removal to keep indoor air clean, Confirm that the equipment is well grounded to ensure the smooth transfer of static electricity.

✧ **Electromagnetic interference**

Electromagnetic interference will affect the internal components such as capacitance, inductance and other electronic components by capacitive coupling, inductive coupling, impedance coupling, etc. To reduce the adverse effects caused by electromagnetic interference, please pay attention to the following:

The power supply system takes necessary measures against grid interference.

The switch should be away from high-frequency, high-power, high-current equipment, such as wireless transmitters.

Take electromagnetic shielding measures when necessary.

✧ **Lightning protection needs**

When a lightning strike occurs, a strong current is generated in an instant, and the air in the discharge path is instantaneously heated to 20,000 degrees Celsius, and an instantaneous large current is enough to cause fatal damage to the electronic device. For better lightning protection, please note the following:

Confirm that the rack is in good contact with the ground.

Make sure the power outlet is in good contact with the ground.

Reasonable wiring to avoid internal induction lightning.

Signal lightning protector is recommended for outdoor wiring.

✧ **Installation station requirements**

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

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

Make sure the rack has a good cooling system, or maintain good indoor ventilation.

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 yourself

2.2 Product installation

19-inch standard rack installation

S-24GE-M-2UG-400W-AI-VLAN is designed according to the standard 19-inch rack size, you can easily install to the rack, the specific installation steps as follows:

- 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.



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;

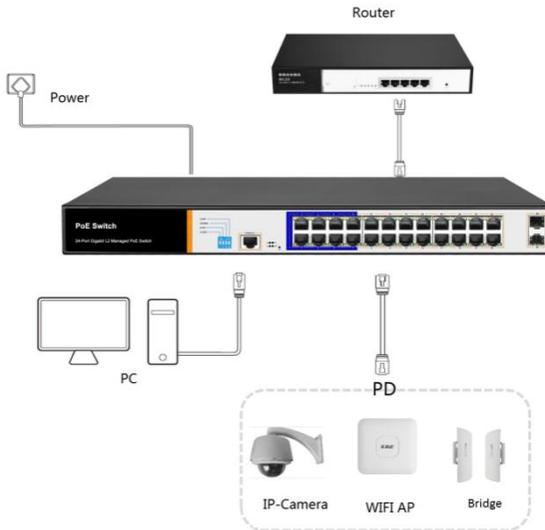
Installation equipment within the rack from the bottom up, to avoid overload installation;

Avoid placing other heavy objects on switch to avoid accidents;

Ensure heat dissipation and air circulation.

3.1 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.

3.2 SFP Port connection

S-24GE-M-2UG-400W-AI-VLAN 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:

First, 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.

Second, 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.

Third, 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.



Note:

Does not allow excessive bending fiber, the radius of curvature should not

be less than 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.

3.3 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.

3.4 Device initialization

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

Indicator will appear the following situation:

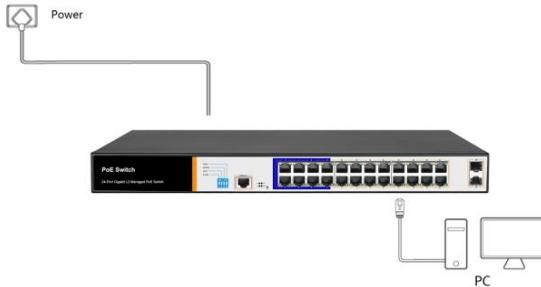
After the power is turned on, the power indicator remains on, the other indicator is off at this time.

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.

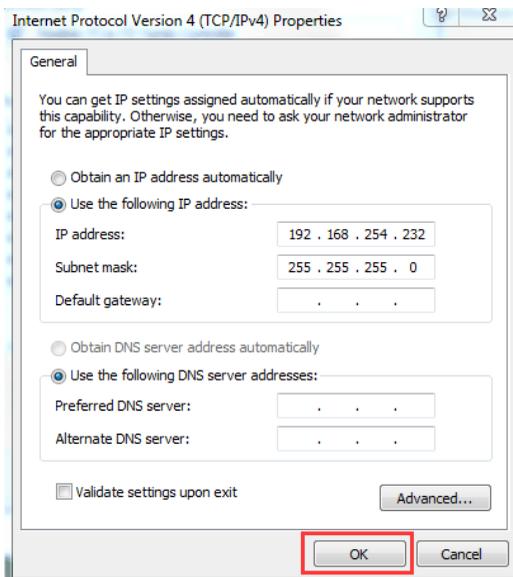
Port LEDs indicates the connection status of each port, indicating that the switch has started to work normally.

3.5 Web Login

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



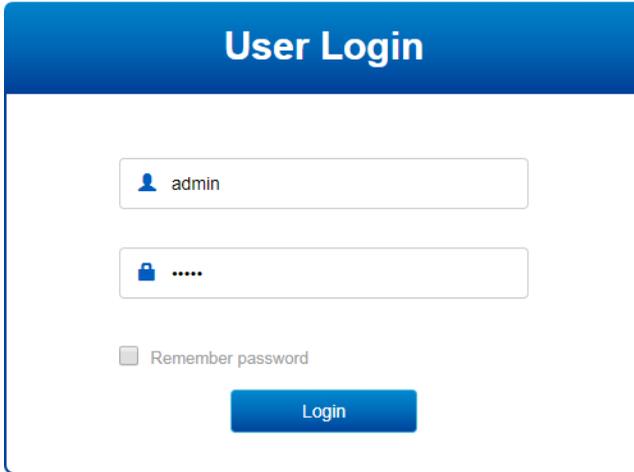
Step 2、 Manually changed the computer IP address to 192.168.254.X (X is 2 ~ 254), subnet mask is 255.255.255.0



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.



The image shows a 'User Login' form with a blue header. Below the header, there are two input fields: the first contains the text 'admin' next to a user icon, and the second contains five dots next to a lock icon. Below these fields is a checkbox labeled 'Remember password' which is currently unchecked. At the bottom of the form is a blue button labeled 'Login'.

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

- System Info
- Global Info
- Statistics Info
- Log Info
- Port Manage
- POE Manage
- Layer2 Manage
- Advanced Manage
- System Manage

Global Info

Product Model	PS3024GS
Hardware Version	V1
Serial Number	SN00000000
MAC Address	88:22:28:99:AA:DD
Firmware Version	V3.18.24.2-g9050a29
Compile Time	Jul 24 2018 14:57:33
Uptime	0 Day 18 Hours 0 Minutes
System Time	2018-07-31 14:30:21 synchronic system time

System load

CPU Utilization

Memory Utilization

Ports Status

QoS	<input type="checkbox"/>	G2	G4	G6	G8	G10	G12	G14	G16	G18	G20	G22	G24
AI PS	<input type="checkbox"/>												
EXTEND	<input type="checkbox"/>	G1	G3	G5	G7	G9	G11	G13	G15	G17	G19	G21	G23
VLAN	<input type="checkbox"/>	G1	G3	G5	G7	G9	G11	G13	G15	G17	G19	G21	G23
	<input type="checkbox"/>	G1	G3	G5	G7	G9	G11	G13	G15	G17	G19	G21	G23
	<input type="checkbox"/>	G1	G3	G5	G7	G9	G11	G13	G15	G17	G19	G21	G23
	<input type="checkbox"/>	G1	G3	G5	G7	G9	G11	G13	G15	G17	G19	G21	G23
	<input type="checkbox"/>	G1	G3	G5	G7	G9	G11	G13	G15	G17	G19	G21	G23
	<input type="checkbox"/>	G1	G3	G5	G7	G9	G11	G13	G15	G17	G19	G21	G23
	<input type="checkbox"/>	G1	G3	G5	G7	G9	G11	G13	G15	G17	G19	G21	G23
	<input type="checkbox"/>	G1	G3	G5	G7	G9	G11	G13	G15	G17	G19	G21	G23
	<input type="checkbox"/>	G1	G3	G5	G7	G9	G11	G13	G15	G17	G19	G21	G23

CPU Usage

Memory Usage

24% 1.9G 4.4G

Chapter 4 Technical Specifications

4.1 Hardware Specifications

Network standard	IEEE 802.3i IEEE 802.3u IEEE 802.3x IEEE 802.3ab IEEE 802.3af IEEE 802.3at
Port	24 10/100/1000Mbps RJ45 port
	2 gigabit SFP
	1 Console
PoE	24 10/100/1000Mbps RJ45 port support PoE+
	Max 250W

	Single port max 46W
LEDs	26 Link/Act LEDS
	24 POE LEDs
	1 SYS LED
	1 Power LED
Performance	Forwarding mode: store and forward
	Bandwidth: 52Gbps
	Packet forwarding rate: 38.688Mpps
	8K MAC address table
Lightning protection	6KV
Input	100-240V/50-60Hz
Dimension (L×W×H)	440mm×180mm×44mm

4.2 Software Specifications

Protocol 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:Standard method for performing link aggregation IEEE 802.3x:flow control IEEE 802.1p:LAN Layer 2 Qos/Cos protocol for traffic priority (multicast filtering) IEEE 802.1q:VLAN IEEE 802.1d:STP Spanning tree IEEE 802.1s:MSTP Spanning tree IEEE 802.1w:RSTP Spanning tree IEEE 802.3af IEEE 802.3at
	One key VLAN One key CCTV(1-8 port 250meters PoE distance)

Shortcut Function	One key AI power supply
	One key QOS (Video priority)
DHCP	Support DHCP Snooping
VLAN	Support 4K VLAN
	Support 802.1Q VLAN, MAC VLAN , IP 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
	Support IP-MAC-PORT ternary binding
	Support ARP protection, IP source protection, DoS protection
	Support DHCP Snooping, DHCP attack protection
	Support 802.1X certificated, AAA
	Support port security, port isolation
	Support CPU protection
POE management	Support POE power limit
	Support POE chip status view
	Support setting PoE port priority
	Support setting PoE power supply time period
Access control	Support L2 (Layer 2) ~ L4 (Layer 4) packet filtering

(ACL)	Support port mirroring, port redirection, flow rate limiting, QoS re-marking
Quality of Service (QoS)	Support 8 port queue
	Support port priority, 802.1p priority, DSCP priority
	Support SP, RR, WR, WFQ Priority scheduling algorithm
Spanning Tree	Support STP(IEEE 802.1d) , RSTP(IEEE 802.1w) and MSTP(IEEE 802.1s) protocol
	Support loop protection, root bridge protection, TC protection, BPDU protection, BPDU filtering
Multicast	Support IGMP v1/v2 Snooping
	Support fast leave mechanism
	Support multicast VLAN
	Supports multicast filtering, packet statistics, and unknown multicast discards.
Storm suppression	Support multicast suppression
	Support broadcast suppression
	Support unknown unicast suppression
Link aggregation	Support static aggregation
	Support dynamic aggregation
	Support IP, MAC, and hybrid load balancing modes
	Supports up to 32 aggregation groups
IPv6	Support IPv6 Ping, IPv6 Tracert, IPv6 Telnet
	Support IPv6 SSH , IPv6 SSL
	Support WEB network management (HTTP, HTTPS, SSL V3)

Management and maintenance	Support CLI (Telnet, SSH V1/V2, local serial port)
	Support SNMP V1/V2/V3
	Support LLDP, RMON
	Support ARP protection, IP source protection, DoS protection
	Support CPU monitoring, memory monitoring
	Support system log, grading warning
	Support Ping, Tracert detection, cable detection