User Manual

POE-SW16-250AI

16 port AI PoE Switch

The first section Product Introduction

1.1 Product Profile

POE-SW16-250AI is an AI PoE switch, 16x 10/100Mbps PoE port with 2 Gigabit combo ports. The switch can carry power to several devices like IP cameras, wireless AP, wireless bridges, or IP phones. Special Features: **AI VLAN** mode: 1 -16 ports are isolated from each other, which can effectively restrain network storms and improve network performance. **AI Extend** mode: the effective transmission distance of 1-8 ports can reach 250 meters, which is suitable for remote monitoring and power supply. **AI power supply** mode: switch automatically detects the working status of the PD device and finds that the device abnormal automatically restarts the device. In **AI QoS** mode: the video data will be processed preferentially when the device is congested to make the video smoother.
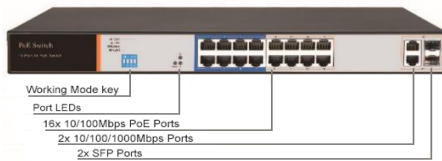
1.2 Package content

Opening packing box, please carefully check the following content

Content	Quantity	Declaration
PoE switch	One piece	\
Power cord	One piece	Supply power
Bracket	Two piece	Rack mounted
Short manual	One piece	\

1.3 Product Appearance

■ Front panel

Including indicator light, RJ45 port, DIP switch, SFP port, the picture is as follow:

Indicator light working information is as follow:

LED	Name	Color	State	Declaration
Power	Power LED	Red	ON	Power normally
			OFF	No power / Power Switch OFF
LINK/ACT (17,18)	Device connection LED	Green	blink	Connection O.K.
			OFF	Corresponding port don't connect normally

◇ RJ45 Port

Support 16 port 10/100Mbps，IEEE802.3af, IEEE802.3at standard PoE supply power.
When working mode is Extend mode, port 1-8 can support 250m supply power
Two 10/100/1000Mbps combo port, use 17,18, indicator light in common

◇ SFP Port

Gigabit SFP port（SFP1），use for gigabit SFP module.

◇ Working mode key

AI Extend: 1-8 port supports 250M meters long distance power supply (recommended cat 5 or above)

AI VLAN: Isolating ports 1-16 from each other, restrain network storms effectively and improve network performance

AI QoS: Prioritize the identified video data to make video transmission smoother

AI PoE: Automatic detection power of port, power off and restart the device if find

■ **Rear panel**

Including：Power\ socket、 ground terminal

1、Power socket

2、Ground terminal

✧ **Power socket**

Connection power cord to PoE switch. Power supply is AC100-240V~50/60Hz.

✧ **Ground terminal**

Please use guide line ground connection, in case lighting stroke. In order to avoid the product   sustain lighting stroke and extend using lifetime.

The second section product install

1.1 Install attention items

⚠ Attention：Avoid incorrect using caused device is damaged and personal injure, please carefully read the following of attention items

■ **The install safety attention items**

● During install make sure power supply keep turn off states, put on anti-static wrist , guarantee the anti-static wrist have good touch with skin, avoiding the potential safety loophole;

● PoE switch can work normally under the correct power supply, please confirm the supply power voltage is correspond with the marked voltage；

● Before PoE switch supply power, please confirm it won't cause power supply circuit overload

● Avoiding electric shock dangerous, please don't open the casing when PoE switch work, even if without power condition, don't open the casing too; Before clean pull   out power plug, don't use wet cloth scrub, please don't use liquid cleaning;

● The product is just only for use   less than elevation 2000m area safety.

◆ **Temperature Humidity**

In order to insure PoE switch long-term steady operation, extend using lifetime, please maintenance a certain temperature and humidity. too high or too low environment humidity easier to cause insulation material electric leakage, variant , even metal parts rusting, high temperature speed up insulation material aging processing, seriously affect device use lifetime. The PoE switch working temperature and storage temperature/ humidity is as follow:

Environment	Temperature	relative humidity
Working	0℃~40℃	10% ~ 90% RH non condensing
Storage	-40℃ ~ 70℃	5% ~ 90% RH non condensing

◆ **Dustproof**

Dust fall over PoE switch surface can cause electrostatic adsorption, make metal connection point poor touch. Although the product make a certain measure of anti static, when static electricity exceed a certain strength, still destroy component parts of the PCB. Please   regularly clean dust, keep indoor air cleaning; insure device ground good, guarantee static electricity transfer smoothly

◆ **Electromagnetic interference**

Electromagnetic interference can affect the device internal capacitance, inductance, in order to reduce electromagnetic interference factor cause adverse effect, please pay attention to the following of items:
Supply power system adopt necessary anti power grid interference measure;
PoE switch should be far away from high frequency power, high current device, such as wireless launch pad

◆ **Lighting protection requirement**

When lighting strike the air on the   discharge path will be instantly heated to 20000 celsius degrees, in the moment high   current enough to cause fatal damage to electronic equipment. To   reach better lightning protection effect:
Make   sure the rack is in good touch with the ground;
Make sure the power socket is in good touch with the ground;
Reasonable wiring to avoid internal lightning;
Outdoor wiring, it is recommended to use signal lightning protector;

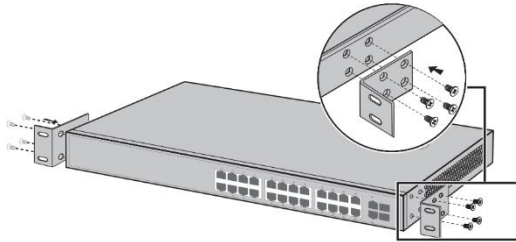◆ **Installation platform requirment**

Make sure rack or workbench smooth and steady. It   should bear 5kg weight at least and should have a good cooling System.
Also make sure that the rack is well grounded, and that the power socket and PoE switch don't exceed 1.5meter.
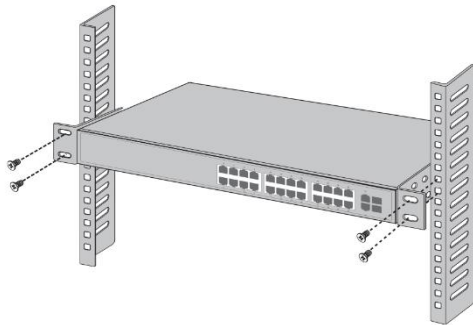
◆ **Installation tools**

During installation, may be used screwdrivers, antistatic wrist strap, network cable fiber   tools, please the user self-prepare;

2.2 Product Installation

Designed according to the standard 19-inch rack size, you can easily install to the rack. Before installation check the rack grounding and stability. Install the L type brackets to the two sides of PoE switch panel and fix with screw;

Put PoE switch on the appropriate location of the rack, crutch by bracket; using the L-shaped bracket to fix the two sides of rack with screw, make sure PoE switch is installed on the rack smooth and steady.

Attention：

Rack has well grounded is the important guarantee of anti-static , anti-leakage,lightning protection,anti-interference, so make sure the rack ground wired is properly installed；

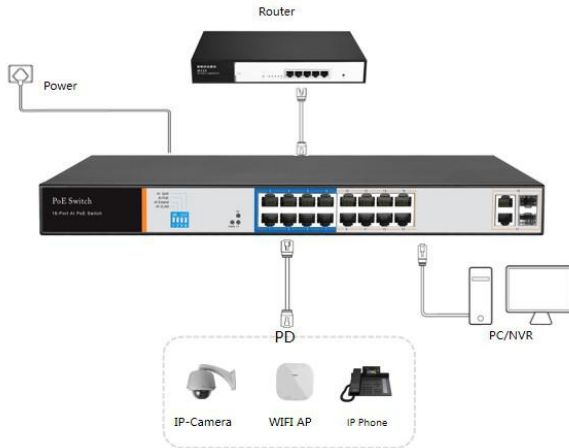Rack-mounted device generally from down to up, avoid overload installation;
Don't put heavy things on the PoE switch, in case happen accident;
Make sure cooling and air ventilation

The third section hardware connection

3.1 Connection RJ45 port

Using Ethernet cable connect PoE switch to the RJ45 port of the opposite end network device，port17,port 18 is uplink port, other is downlink port, default the PoE switch's downlink port already open PoE power function, it can send power to IP camera, wireless AP, wireless bridge.

![Attention icon] **Attention**：

When PoE switch is connected to a workstation,server,router, or other Ethernet device, the Ethernet cable length can not more than 100meter;

The Ethernet RJ45 port Auto-MDI/MDIX function default open, when adopt Cat.5 cable to connect Ethernet network, both standard Ethernet cable and crossover Ethernet cable can be used;
Don't use RJ45 port to connect telephone cable.

3.2 Connection SFP port

⚠ SFP port just only support gigabit SFP module. Suggestion to use standard SFP module.

The process of PoE switch install SFP module is as follow：

1. Hold the SFP module from the side, insert it smoothly along the SFP port slot of PoE switch, until the SFP module is close touch with PoE switch;

2. When connection, please confirm SFP module RX and Tx port, the side of fiber optic corresponding insert Rx and Tx port, Make sure Tx and Rx port connection correctly, the another side of fiber connect to another device;

3. after powered，please check the corresponding indicator light status. If light is on, show the link already connect normally, light is off, show the link is blocked. Please check circuit, confirm the opposite end device already start using.

⚠ **Attention：**
Do not over bend the fiber, the radius of curvature should not be less than   10cm;
Make sure the cleanliness of the fiber surface;
Please do not look directly at the fiber optical connector, otherwise can cause eye damage.□

3.3 Inspection Before powered

Please check if power socket supply power is correspond the specification or not;
Please check if power supply, PoE switch, rack already grounded correctly or not;
Please check if PoE switch normally connect with other network equipment or not;

3.4 Device initialization

After powered after turn on power, PoE switch will automatically initialization.
Indicator light will appear the following of situation;

After powered, the power indicator light always keep ON, the other indicator light OFF.

After around two second, except power indicator light, the other indicator light ON around two second, then OFF;

Each port indicator light indicates the connection status of each port, it show PoE switch start work normally.
□

The forth section product hardware specification

4.1 hardware specification

Standards	IEEE 802.3i IEEE 802.3u IEEE 802.3x IEEE 802.3ab IEEE 802.3af IEEE 802.3at	
Ports	PoE Ports	16x 10/100Mbps RJ45 port
	Uplink	2x 10/100/1000Mbps RJ45 port
	SFP	2x Gigabit SFP port (only Gigabit Modul are supported)
PoE Specifications	Number	16
	Total Power Budget	250W
	Single Port Budget	max. 30W
Indicators	18 Link/Act indicator light	
	16 PoE indicator light	
	1 Power indicator light	
Performance	forwarding mode	storage forwarding
	Bankplane bandwidth	7.2 Gbps
	Packet forwarding rate	5.36 Mpps
	Support 8K MAC address list depth	
Input Power	100-240V/50-60Hz	
Dimensions	440mm×180mm×44mm (LxWxH)	