

# User Manual

**AI1016G**

**16 port Gigabit AI PoE Switch**



## Instruction manual

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《User Manual》 mainly introduce AI1016G hardware feature, installment method and attention items.

Including these section :

The first section : product introduction. Mainly introduce PoE switch function, feature and appearance.

The second section : product installment. Guide PoE switch hardware installment method and attention items.

The third section : hardware connection. Guide PoE switch connection with other device and attention items.

The forth section : technical specification.



Delare : In order to avoid device is damaged and personal injury, please carefully read user manual correlation content.

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## Appointment

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Part pictures are diagrammatic drawing, the picture can exsist difference with product.

The icon remind the attention items, if the incorrect operation can cause the device is damaged

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# The first section Product Introduction

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## 1.1 Product Profile

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AI1016G is gigabit AI PoE switch, 16 10/100/1000Mbps PoE port with 2 Gigabit SFP Ports. It supports the management of Apollo cloud. AI1016G can carry power to IP camera, wireless AP, wireless bridge, IP phone. AI1016G is with 4 working modes. In AI VLAN mode, 1-16 ports are isolated from each other, which can effectively restrain network storms and improve network performance. In AI Extend mode, the effective transmission distance of 1-8 ports can reach 250 meters, which is suitable for remote monitoring and power supply. In the AI power supply mode, the 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. AI1016G supports IEEE802.3af/at, auto identification power device, so don't worry it will destroy the private standard PoE or non-PoE device.

## 1.2 Package content

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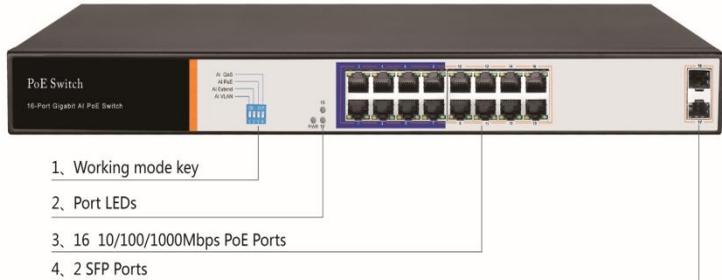
Opening packing box, please carefully check the following content

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

## 1.3 Product Appearance

### ■ Front panel

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



### Indicator light

AI1016G indicator light working information is as follow:

LED	Name	Color	Working states	Declaration
POWER	Power LED	Red	ON	power normally
			Off	Don't have power、 power switch don't turn on, power abnormal
LINK/ACT(17,18)	Device connection LED	Green	blink	Corresponding already connect normally
			Off	Corresponding port don't connect normally

#### ✧ RJ45 Port

AI1016G support 16 port 10/100/1000Mbps , IEEE802.3af, IEEE802.3at standard PoE supply power. When working mode is Extend mode, port1-port 8 can support 250m supply power

#### ✧ SFP Port

AI1016G is with two gigabit SFP port ( 17,18 ) , 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



### ✧ **Power socket**

Connection power cord to PoE switch AI1016G power supply is AC100-240V~50/60Hz.

### ✧ **Ground terminal**

Please use guide line ground connection, in case lightning stroke. In order to avoid the product sustain lightning 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, for fear that affecting PoE switch work normally, even cause unnecessary destroy ;
- 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 PoE switch, should pull out power plug, please don't use wet cloth scrub, please don't use liquid cleaning;



### ◇ 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 过 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 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

### Elevation



The product is with this icon just only use for the less than elevation 2000m area safety using.



### ◇ 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, in order to avoid static electricity affect product work normally, please pay attention to the items as follow:

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 ;

If necessary, please make electromagnetic shielding measure

◇ **Lighting protection requirement**

When lightning strike, in the moment will have a strong current, 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. In order to reach better lightning protection effect, please not the following:

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**

PoE switch is installed in a rack or on another horizontal workbench, Please note the following:

Make sure rack or workbench smooth and steady, secure, it can bear 5.5kg weight at least;

Make sure the rack has a good cooling system,or keep indoor well-ventilated;

Make sure the rack is well grounded, power socket and PoE switch don't exceed 1.5meter

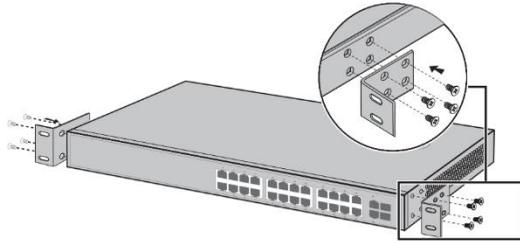
◇ **Installation tools ready**

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

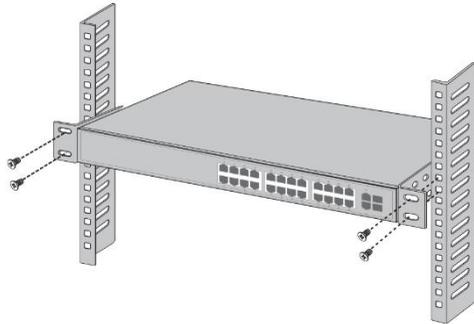
## 2.2 Product Installation

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1. AI1016G is designed according to the standard 19-inch rack size, you can easily install to the rack, the specific installation steps are as follows:
2. check the rack grounding and stability ;
3. two pieces L type bracket differentiate install to the two sides of PoE switch panel and fix with screw



4. 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

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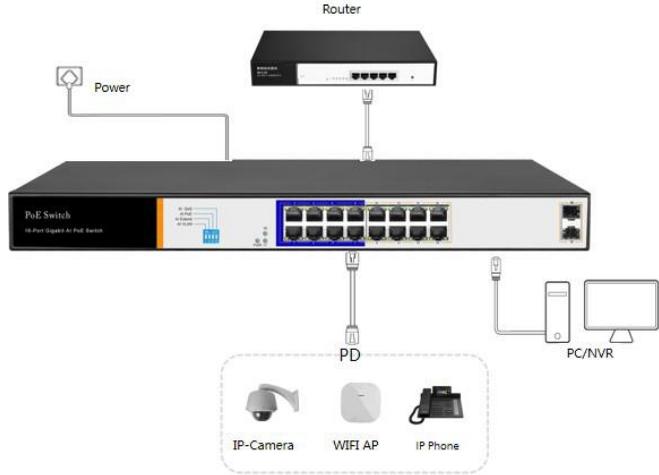
## The third section hardware connection

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### 3.1 Connection RJ45 port

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



#### 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.

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### 3.2 Connection SFP port

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A1016G 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.

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### 3.3 Inspection Before powered

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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

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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

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### 4.1 hardware specification

Standard	IEEE 802.3i IEEE 802.3u IEEE 802.3x IEEE 802.3ab IEEE 802.3af IEEE 802.3at
Port	16 10/100/1000Mbps RJ45 ports
	2 Gigabit SFP ports
PoE	16 10/1000Mbps RJ45 PoE ports
	Total power budget: 150W
	Single port max. 30W
Indicator	18 Link/Act indicator light
	16 PoE indicator light
	1 Power indicator light
Performance	forwarding mode : storage forwarding
	Bankplane bandwidth : 36Gbps
	Packet forwarding rate : 26.8Mpps
	Support 8K MAC address list depth
Input power	100-240V/50-60Hz
Dimensions ( L×W×H )	440mm×180mm×44mm

