



16-Port 2.5G L3 Managed Switch

NS3016XGSH



Installation manual introduction

The Product installation manual mainly describes NS3016XGSH 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 10 Gigabit uplink 2.5G managed switch, hereinafter referred to as NS3016XGSH. Some pictures for the schematic, the product itself and pictures may be different.



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

NS3016XGSH is a 2.5G high bandwidth three-layer management switch designed specifically for building high-performance 10 Gigabit network requirements. The product adopts a new generation of high-performance hardware and software platforms, providing flexible and cost-

effective 2.5G access and 10 Gigabit uplink ports. This model of switch provides 8*2.5G ports, 8*GE ports, 2*10G electric ports, and 2*10G optical uplink ports. Supports three-layer routing protocols, comprehensive security protection mechanisms, comprehensive ACL/QoS policies, and rich VLAN functions, making it easy to manage and maintain, meeting users' networking needs for easy management, high security, and low cost of network equipment. It is suitable for high bandwidth switches such as internet cafes, esports hotels, esports halls, school electronic academic rooms, and high-speed enterprise networks.

Features

- Provide 2*10G RJ45 ports, 2*10G SFP+ ports at the same time;
- Support abundant L2/L3 features;
- Support Auto MDI/MDIX;
- Adopt store-and-forward exchange method;
- Support port without link power saving function;
- All ports have wire-speed forwarding capability;
- All ports support 6KV surging.

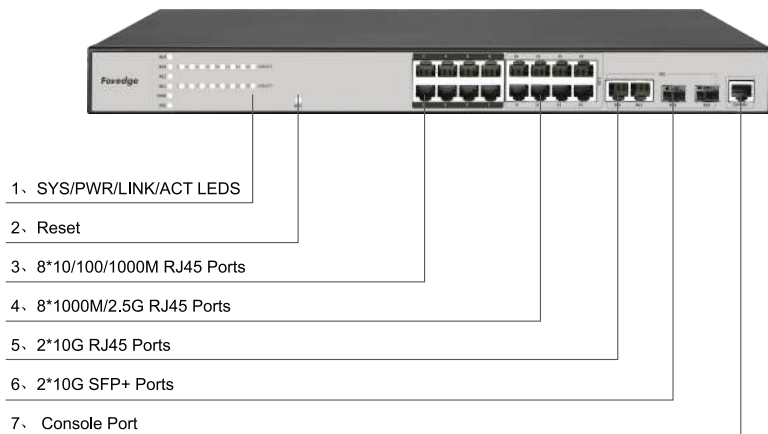
1.2 Packing list

Commodity	Quantity	Description
Switch	1pcs	\
Power cord	1pcs	Optional
Bracket	2pcs	Fixed on rack mount
User manual	1pcs	Guide users to install switch

1.3 Appearance

● **Front Panel**

Including indicators, RJ45 port, RST key, SFP port, Console port, as shown in Figure 1.1 below:



Indicators

NS3016XGSH indicator working status is shown as the following table:

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
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
XG1-XG2	10G RJ45 indicator	Green	Blinking	The link is normal
			Off	The link is not abnormal
XG3-XG4	SFP indicator	Green	Blinking	The link is normal
			Off	The link is not abnormal

RJ45 Port

NS3016XGSH support 8 * 10/100/1000M/2.5G port, 8 * 10/100/1000M port, 2 * 10G RJ45 uplink ports(XG1,XG2).

SFP Port

NS3016XGSH provide 2 10Gigabit SFP+ optical ports (XG3,XG4), can be inserted with 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.

Chapter 2 Installation

2.1 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 work 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 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°C~40°C	10%~90% RH no condensation
Storage environment	-40°C~70°C	5%~90% RH no condensation

● **Altitude**



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 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:

Regular dust, keep the indoor air clean;

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 capacitive, inductive coupling, impedance coupling and other conductive, in order to reduce the adverse effects caused by electromagnetic interference, please note the following:

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

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

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

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

Reasonable wiring, to avoid the internal sense ray;

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:

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 and 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.

2.2 Product installation

19-inch standard rack installation

NS3016XGSH is designed according to the standard 19-inch rack size, you can easily install to the rack, and the specific installation steps are as follows:

First, Check rack grounding and stability;

Second, Install the two L-brackets in the accessory on each side of the switch panel and secure with the screws provided in the accessory;

Third, 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;

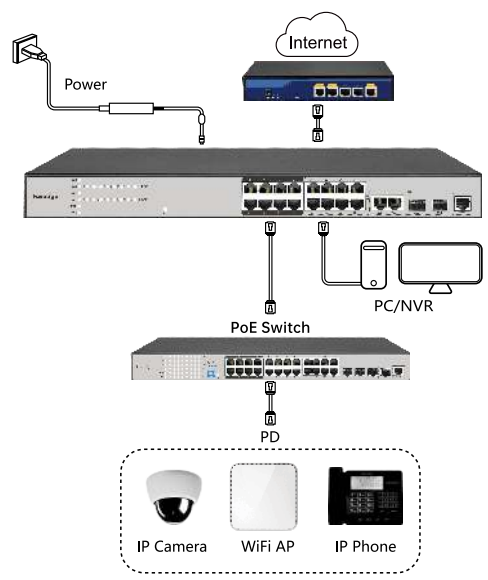
Switch surface to avoid placing other heavy objects to avoid accidents;

Ensure heat and air circulation.

Chapter3 Hardware connection

3.1 RJ45 port connection

Connect the RJ45 port of the switch and the corresponding network device via cables.



! 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

NS3016XGSH SFP port support 10G 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;

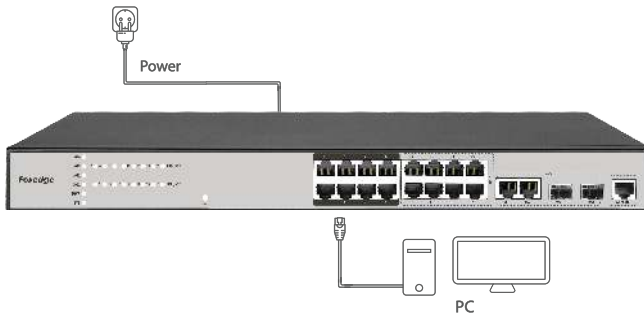
After about 1 second, all lights except for the power light turn on for about 35 seconds and then turn off; when the SYS light goes flashing, the system runs normally;

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.



Computer Connection Diagram

Step2: Manually changed the computer IP address to 192.248.254.X (X is 2 ~ 254), subnet mask is 255.255.255.0.

Step3: Open computer's browser, type 192.248.254.1 in the address box, hit the Enter key.

Step4: Enter the web login interface of the switch, enter the default username and password admin in the username and password fields, 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.



Chapter 4 Hardware Specifications

Port	8 * 10/100/1000M/2.5G RJ45 port
	8 * 10/100/1000M RJ45 port
	2 * 10G RJ45 port
	2 * 10G SFP+ fiber port
	1 Console port
LEDs	20 Link/Act LEDs
	1 Power LEDs,1 SYS LEDs
Performance	Forwarding mode: store and forward
	Switch volume (Full-duplex): 136Gbps
	Packet forwarding rate: 101.2Mpps
	16K MAC address table
Input	100-240V/50-60Hz
Dimension (L*W*H)	440mm*320mm*44mm