Content

Chapter 1 Introduction

1.1 Overview

CS6200-28(52)X(F)(-P)-EI(R2.0) series of ethernet switches are that a series of three layer line speed Ethernet switch products by self-development in DCG ,intelligent network management switch used by the network environment which needs the high performance, the bigger port density and the convenient installation.

1.2 Introduction to Product

1.2.1 Product Overview

CS6200 series of switches include CS6200-28X-EI,CS6200-28X-P-EI CS6200-52X-EI,CS6200-28F-EI-R and CS6200-52F-EI switches. CS6200-28X-P-EI supplies 370W PoE power supply, and the max output power of each port is 30W. This series of switches include the types in the following:

Name	Type	Description
CS6200 series	CS6200-28X-EI	20 copper ports＋4 Combo ports＋4 10Gb optical ports
	CS6200-28X-P-EI	20 copper ports＋4 Combo ports＋4 10Gb optical ports
	CS6200-52X-EI	48 copper ports＋4 10Gb optical ports
	CS6200-28F-EI-R	8 Combo ports +16 1000Mb optical ports +4 10Gb optical ports
	CS6200-52F-EI	48 1000Mb optical ports +4 10Gb optical ports

Table 1-1 CS6200-28(52)X(F)(-P)-EI(R2.0) series switches types

1.2.2 Features and Benefits

✧ **Various Interfaces**

CS6200-28X-EI,CS6200-28X-P-EI provides 20 fixed 1000Mb copper ports, 4 1000Mb COMBO ports (1000Mb fiber SFP ports/1000Mb copper ports) and 4 10Gb optical ports. CS6200-52X-EI provides 48 copper ports and 4 10Gb optical ports.

CS6200-28F-EI-R provides 8 Combo ports , 16 1000Mb optical ports and 4 10Gb optical ports. CS6200-52F-EI provides 48 1000Mb optical ports and 4 10Gb optical ports.

✧ Support 10Gb Ethernet

10Gb Ethernet which adopts full-duplex technology instead of low-speed, half-duplex CSMA/CD protocol, is a big leap in the evolution of Ethernet. 10Gb Ethernet can be deployed in star or ring topologies. This series of switches provide broad bandwidth and powerful processing capacity. It is suitable for metropolitan networks and wide area networks. It can simplify network structures and reduce cost of network construction.

✧ Networking Protocols

This series of switches support 802.1d/w/s, 802.1Q, 802.1p, 802.3ad, 802.3x, GVRP, DHCP and SNTP etc. The switches also support the multicast protocols such as IGMP, DVMRP and PIM. Moreover, support RIPv1/2, OSPF, BGP and IPv6 protocols. All these protocols supported enable switch to meet the requirements of complex network constructions.

✧ ACL

This series of switches support comprehensively ACL policies. The traffic can be classified by source/destination IP addresses, source/destination MAC addresses, IP protocols, TCP/UDP, IP precedence, time ranges and ToS. And various policies can be conducted to forward the traffic. By implementing ACL policies, users can filter the virus packets such as “Worm.Blaster”, “Worm.Sasser” and “Red Code” etc. it also support IEEE802.1x port based access authentication, which can be deployed with RADIUS, to ensure the port level security and block illegal users.

✧ QoS

This series of switches fully support DiffServ Module. Each port provides 8 priority queues.Users can specify a queue bandwidth on each port. WRR/SP/SWRR scheduling is also supported. support the port trust. Users can configure trusted COS, DSCP, IP precedence and port priority. User can also modify packet’s DSCP and COS values. The traffic can be classified by port, VLAN, DSCP, IP precedence and ACL table. User can also modify packet’s DSCP and IP precedence values. Users can specify different bandwidths for voice/data/video to customize different qualities of service.

✧ 3D-SMP Ready

This series of switches are up to the mustard of Self-defending security region management strategy 3D-SMP according to Digital China Netware. It is supported interaction with some security system such as firewall, IDS, etc. It can defense the virus and aggress effectively from the extranet and internet. Thus enhance the security and stability of the network-wide.

✧ Perfect Web Management.

This series of switches support SNMP, In-band and Out-of band Management, CLI and WEB interface and RMON. It can mail the correlative sensitive information to the

administrator abide by SMTP protocol. support SSH protocol, ensure the configuration management security of the switch. It adopts the Digital China centralized web management system DCLM' for unified management expedienty and compactly.

✧ **Flexible Power Ensure System**

This series of switches support two AC power which have the backup function if one of them is fault. The power is hot swappable that improves the expansibility and flexibility of the power system.

✧ **Abundant Management Ability of Device**

This series of switches have the network 1000Mb management port. It can upgrade the device through the common business electrical port or the network management port. It can also login the network management web page through the common business electrical port or the network management port.

1.3 Physical Specifications

Item	CS6200-28X-EI	CS6200-28X-P-EI	CS6200-52X-EI
Dimension (W * H * D)（mm）	440×320×44	440×320×44	440×320×44
Weight	<6kg	<6kg	<6kg
Fixed ports	20 100/1000Base-TX auto negotiation ethernet ports 4 1000Mb Combo ports 4 10Gb optical ports	20 100/1000Base-TX auto negotiation ethernet ports 4 1000Mb Combo ports 4 10Gb optical ports	48 100/1000Base-TX auto negotiation ethernet ports 4 10Gb optical ports
Management ports	1 Console port, 1 network management port which supports 1000Mb rate		
AC power	The rating voltage range: 100V~240V AC; 50/60HZ The max voltage range: 90V~264V AC; 47HZ～63HZ		
DC power	Do not support	Do not support	Do not support
Output power supply of PoE	Do not support	Support	Do not support
The max Power Consumption	36W	406W(370W POE is the maximum power supply	60W

Fan	Support automatic timing	Support automatic timing	Support automatic timing
Operating Temperature	0℃~50℃	0℃~50℃	0℃~50℃
Relative Humidity	5%~95%	5%~95%	5%~95%

Table 1-2 Physical Specifications

Item	CS6200-28F-EI-R	CS6200-52F-EI
Dimension (W * H * D)（mm）	440×240×44	440×320×44
Weight	<6kg	<6kg
Fixed ports	8 1000Mb Combo ports 16 1000Mb optical ports 4 10Gb optical ports	48 1000Mb optical ports 4 10Gb optical ports
Management ports	1 Console port, 1 network management port which supports 1000Mb rate	
AC power	The rating voltage range: 100V~240V AC; 50/60HZ The max voltage range: 90V~264V AC; 47HZ～63HZ	
DC power	voltage range: 11-13V current value: 4.5A	voltage range: 11-13V current value: 8.33A
Output power supply of PoE	Do not support	Do not support
The max Power Consumption	36W	60w
Fan	Support automatic timing	Support automatic timing
Operating Temperature	0℃~50℃	0℃~50℃
Relative Humidity	5%~95%	5%~95%

Table 1-3 Physical Specifications

1.4 Description of Hardware

1.4.1 Front Panel

CS6200-28X-EI ethernet switches provide 20 100/1000Base-TX auto negotiation ehternet ports, 4 1000Mb Combo ports, 4 10Gb optical ports, 4 function LEDs, 1 network management port, 1 USB interface, 1 reset button and 1 Console port. As shown:

Fig 1-1 Front Panel of CS6200-28X-EI

CS6200-28X-P-EI ethernet switches provide 20 100/1000Base-TX auto negotiation ehternet ports, 4 1000Mb Combo ports, 4 10Gb optical ports, 5 function LEDs, 1 network management port, 1 USB interface, 1 reset button and 1 Console port.

Fig 1-2 Front Panel of CS6200-28X-P-EI

CS6200-52X-EI Ethernet switches provide provide 48 100/1000Base-TX auto negotiation ehternet ports, 4 10Gb optical ports, 1 network management port, 1 USB interface, 1 reset button and 1 Console port.

Fig 1-3 Front Panel of CS6200-52X-EI

CS6200-28F-EI-R Ethernet switches provide provide 8 1000Mb Combo ports, 16 1000Mb optical ports, 4 10Gb optical ports, 1 network management port, 1 USB interface, 1 reset button, 1 Console port, 1 ground screw hole, 1 AC plug-in interface and 1 DC plug-in interface.

Fig 1-4 Front Panel of CS6200-28F-EI-R

CS6200-52F-EI Ethernet switches provide 48 1000Mb optical ports, 4 10Gb optical ports, 1 network management port, 1 USB interface, 1 reset button, 1 Console port, 1 ground screw hole, 1 AC plug-in interface and 1 DC plug-in interface.

Fig 1-5 Front Panel of CS6200-52F-EI

1.4.2 Back Panel

CS6200-28/52X-EI supplies 1 ground screw hole and two power plug-in interfaces.

Fig 1-6 Back Panel of CS6200-28/52X-EI

CS6200-28X-P-EI supplies 1 ground screw hole and 1 power plug-in interfaces.

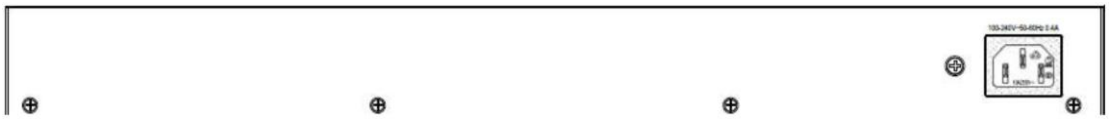

Fig 1-7 Back Panel of CS6200-28X-P-EI

CS6200-28F-EI-R supplies 2 fans on the back panel.

Fig 1-8 Back Panel of CS6200-28F-EI-R

CS6200-52F-EI supplies 1 ground screw hole, 1 AC plug-in interface and 1 DC plug-in interface.

Fig 1-9 Back Panel of CS6200-52F-EI

1.4.3 Status LEDs

LEDs of switch show the corresponding state. Mainboard LEDs include two parts, one is RJ45 interface LEDs, SFP interface LEDs and SFP+ interface LEDs. They show each port state at plug-in, each port corresponds a LED.

LED	Status	Description
Green	On	On means ports are in the link state of 10G, 1000M, 100M, 10M
	Off	Off means ports are not in the link state of 10G, 1000M, 100M, 10M
	Blink	Send or receive the data

Table 1-4 Port LEDs

The other is system LEDs, they are used to show the work status of the system at the right of front panel.

Panel Symbol	Status	Description
PWR1	On (Green)	Power1 is operating normally
	Off	Power1 is not operating
PWR2	On (Green)	Power2 is operating normally
	Off	Power2 is not operating
DIAG	On(Green, blink)	System is loading
	On (Green)	System is operating normally
MGMT	On (Green)	Network management port is operating normally
	Off	Network management port is not operating

Table 1-5 CS6200-28(52)X-EI(R2.0) System LEDs

Panel Symbol	Status	Description
PWR1	On (Green)	Power1 is operating normally
	Off	Power1 is not operating
PWR2	On (Green)	Power2 is operating normally
	Off	Power2 is not operating
DIAG	On(Green, blink)	System is loading
	On (Green)	System is operating normally
PoE	On (Green)	PoE is operating normally
	Off	PoE is not operating
MGMT	On (Green)	Network management port is operating normally
	Off	Network management port is not operating

Table 1-6 CS6200-28X-P-SI System LEDs

Panel	Status	Description

Symbol		
PWR	On (Green)	AC power is operating normally
	Off	AC power is not operating
DIAG	On(Green, blink)	System is loading
	On (Green)	System is operating normally
RPS	On (Green)	DC power is operating normally
	Off	DC power is not operating
MGMT	On (Green)	Network management port is operating normally
	Off	Network management port is not operating

Table 1-7 CS6200-28F-EI-RI/CS6200-52F-EI System LEDs

1.4.4 Interface Description of Front Panel

Port mode	Spec
RJ-45 port	• 10/100/1000Mbps auto negotiation • MDI/MDI-X cable mode auto negotiation • 5 kinds of UTP: 100 m
SFP	• SFP-SX-L transceiver 1000Base-SX SFP(850nm,MMF,550m) • SFP-LX-L transceiver 1000Base-LX SFP(1310nm, SMF, 10km or MMF, 550m) • SFP-LX-20-L transceiver 1310nm lightwave, 9/125um single mode fiber: 20km • SFP-LX-40 transceiver 9/125um single mode fiber: 40km • SFP-LH-70-L transceiver 9/125um single mode fiber: 70km • SFP-LH-120-L transceiver 9/125um single mode fiber: 120km
SFP+	• SFPX-SR transceiver 10GBase-SR SFP+ (850nm,MMF,550m) • SFPX-LR transceiver 10GBase-LR SFP+(1310nm, SMF, 10km)

DAC-SFPX	● DAC-SFPX-3M ● DAC-SFPX-5M
AOC-SFPX	● AOC-SFPX-5M ● AOC-SFPX-10M
DAC-QSFP	● 40GBASE-CR4 transceiver Copper, 5m
QSFP-SR	● 40GBASE-SR4 transceiver 850nm, MMF, OM3 100m,OM4 150m, Supporting 40G divided into 4 10G,need to cooperate with MTP optical fiber

Table 1-8 interface descriptions

Chapter 2 Device Installation

2.1 Installation Notice

To ensure the proper operation of switch and your physical security, please read carefully the following installation guide.

2.1.1 Environmental Requirements

- The switch must be installed in a clean area. Otherwise, the switch may be damaged by electrostatic adherence.
- Maintain the temperature within 0 to 50 °C and the humidity within 5% to 95%, non-condensing.
- The switch must be put in a dry and cool place. Leave sufficient spacing around the switch for good air circulation.
- The switch must work in the range of AC power input: 100 ~ 240VAC (50/60Hz) and DC power input：11～13VDC.
- The switch must be well grounded in order to avoid ESD damage and physical injury of people.
- The switch should avoid the sunlight perpendicular incidence. Keep the switch away from heat sources and strong electromagnetic interference sources.
- The switch must be mounted to a standard 19” rack or placed on a clean level desktop.

2.1.1.1 Dust and Particles

Dust is harmful to the safe operation of switch. Dust can lead to electrostatic adherence, especially likely under low relative humidity, causing poor contact of metal connectors or contacts. Electrostatic adherence will result in not only reduced product lifespan, but also increased chance of communication failures. The recommended value for dust content and particle diameter in the site is shown below:

Max Diameter (μm)	0.5	1	3	5
Max Density (particles/m³)	1.4×10^5	7×10^5	2.4×10^5	1.3×10^5

Table 2-1 Environmental Requirements: Dust

In addition, salt, acid and sulfide in the air are also harmful to the switch. Such harmful gases will aggravate metal corrosion and the aging of some parts. The site should

avoid harmful gases, such as SO_2, H_2S, NO_2, NH_3 and Cl_2, etc. The table below details the threshold value.

Gas	Average (mg/m³)	Max (mg/m³)
SO_2	0.2	1.5
H_2S	0.006	0.03
NO_2	0.04	0.15
NH_3	0.05	0.15
Cl_2	0.01	0.3

Table 2-2 Environmental Requirements: Particles

2.1.1.2 Temperature and Humidity

Although the switch is designed to use fans, the site should still maintain a desirable temperature and humidity. High-humidity conditions can cause electrical resistance degradation or even electric leakage, degradation of mechanical properties and corrosion of internal components. Extreme low relative humidity may cause the insulation spacer to contract, making the fastening screw insecure. Furthermore, in dry environments, static electricity is liable to be produced and cause harm to internal circuits. Temperature extremes can cause reduced reliability and premature aging of insulation materials, thus reducing the switch's working lifespan. In the hot summer, it is recommended to use air-conditioners to cool down the site. And the cold winter, it is recommenced to use heaters.

The recommended temperature and humidity are shown below:

Temperature:		Relative humidity	
Long term condition	Short term condition	Long term condition	Short term condition
15 ~ 30°C	0 ~ 50°C	40 ~ 65%	5 ~ 95%

Table 2-3 Environmental Requirements: Temperature and Humidity

Caution!

A sample of ambient temperature and humidity should be taken at 1.5m above the floor and 0.4m in front of the switch rack, with no protective panel covering the front and rear of the rack. Short term working conditions refer to a maximum of 48 hours of continued operation and an annual cumulative total of less than 15 days. Formidable operation conditions refers to the ambient temperature and relative humidity value that may occur during an air-conditioning system failure, and normal operation conditions should be recovered within 5 hours.

2.1.1.3 Power Supply

Before powering on the power supply, please check the power input to ensure proper grounding of the power supply system. The input source for the switch should be reliable and secure; a voltage adaptor can be used if necessary. The building's circuit protection system should include in the circuit a fuse or circuit-breaker of no greater than 240 V, 10A. It is recommended to use a UPS for more reliable power supplying. .

Caution!

Improper power supply system grounding, extreme fluctuation of the input source, and transients (or spikes) can result in larger error rate, or even hardware damage!

2.1.1.4 Preventing Electrostatic Discharge Damage

Static electric discharges can cause damage to internal circuits, even the entire switch. Follow these guidelines for avoiding ESD damage:

- Ensure proper earth grounding of the device;
- Perform regular cleaning to reduce dust;
- Maintain proper temperature and humidity;
- Always wear an ESD wrist strap and antistatic uniform when in contact with circuit boards.

2.1.1.5 Anti-interference

All sources of interference, whether from the device/system itself or the outside environment, will affect operations in various ways, such as capacitive coupling, inductive coupling, electromagnetic radiation, common impedance (including the grounding system) and cables/lines (power cables, signal lines, and output lines). The following should be noted:

- Precautions should be taken to prevent power source interruptions;
- Provide the system with a dedicated grounding, rather than sharing the grounding with the electronic equipment or lightning protection devices;
- Keep away from high power radio transmitters, radar transmitters, and high frequency strong circuit devices;
- Provide electromagnetic shielding if necessary.

2.1.1.6 Rack Configuration

The dimensions of the switch is designed to be mounted on a standard 19" rack, please ensure good ventilation for the rack.

- Every device in the rack will generate heat during operation, therefore vent and fans must be provided for an enclosed rack, and devices should not be stacked closely.
- When mounting devices in an open rack, care should be taken to prevent the rack frame from obstructing the switch ventilation openings. Be sure to check the

positioning of the switch after installation to avoid the aforementioned.

Caution!

If a standard 19” rack is not available, the switch can be placed on a clean level desktop, leave a clearance of 100mm around the switch for ventilation, and do not place anything on top of the switch.

2.1.2 Installation Notice

- Read through the installation instruction carefully before operating on the system. Make sure the installation materials and tools are prepared. And make sure the installation site is well prepared.
- During the installation, users must use the brackets and screws provided in the accessory kit. Users should use the proper tools to perform the installation. Users should always wear antistatic uniform and ESD wrist straps. Users should use standard cables and connecters.
- After the installation, users should clean the site. Before powering on the switch, users should ensure the switch is well grounded. Users should maintain the switch regularly to extend the lifespan of the switch.

2.1.3 A-level declarations

According to the requirements of standard GB9254-2008 "Radio Disturbance Limits and Measurement Methods for Information Technology Equipment", information technology equipment can be divided into two categories: A-level ITE and B-level ITE.

Class A ITE is a category of all other ITE which satisfies the class A ITE limits but not the class B ITE limits. The following warning shall be included in the instructions for use:

> Warning
>
> This is class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

2.1.4 Security Warnings

- When using SFP transceiver, do not stare directly at the fiber bore when the switch is in operation. Otherwise the laser may hurt your eyes.
- Do not attempt to conduct the operations which can damage the switch or which can cause physical injury.
- Do not install, move or disclose the switch and its modules when the switch is in operation.
- Do not open the switch shell.

- Do not drop metals into the switch. It can cause short-circuit.
- Do not touch the power plug and power socket.
- Do not place the tinder near the switch.
- Do not configure the switch alone in a dangerous situation,
- Use standard power sockets which have overload and leakage protection.
- Inspect and maintain the site and the switch regularly.
- Have the emergence power switch on the site. In case of emergence, switch off the power immediately.

Caution!

Potential risk include: Electric leakage, Power supply arcing, Power line breakage, Imperfect earth, Overload circuit and Electrical short circuit. If electric shock, fire, electrical short circuit occurs, please cut off the electricity supply and alarm rapidly. Rescue the injured person in the contingency under inherently safe, give the injured person proper first aid treatment according to the injury state, and seek help from the Medical Emergency using various ways.

2.2 Installation Preparation

2.2.1 Verify the Package Contents

Please unpack the shipping package and verify carefully the contents inside.

2.2.2 Required Tools and Utilities

The required tools and utilities are shown below:

- Cross screwdrivers
- Flat-blade screwdriver
- ESD wrist strap
- Antistatic uniform

Caution!

Users should prepare the required tools and utilities by themselves.

2.3 Device Installation

2.3.1 Installing the Switch

Please mount switch on the 19” rack as below:

1. Attach the 2 brackets on the switch with screws provided in the accessory kit.

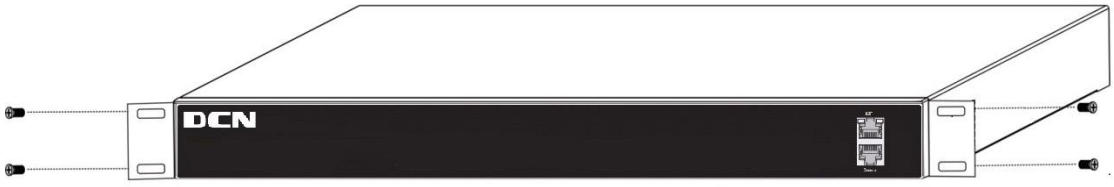

Figure 2-1 switch install sketch map on the rack using stock

2. Put the bracket-mounted switch smoothly into a standard 19’’ rack. Fasten the switch to the rack with the screws provided. Leave enough space around the switch for good air circulation.

Caution!

The brackets are used to fix the switch on the rack. They can’t serve as a bearing. Because the device is heavy, we suggest installing the rack tray on the bottom of the switch. Do not place anything on top of the switch. Do not block the blowholes on the switch to ensure the proper operation of the switch. If there is no tray, add the lugs (The

device provides it) on the back of the switch to make it fix on the rack.

There is no back horn iron in standard configuration. If users bought it, the figure of installation is below:

Figure 2-2 The figure of switch installing on the rack by using the front and back horn iron

Caution!

The brackets are used to fix the switch on the rack. They can't serve as a bearing. Please place a rack shelf under the switch. Do not place anything on top of the switch. Do not block the blowholes on the switch to ensure the proper operation of the switch.

2.3.2 Connecting Console

switch provide a serial RJ45 console port.

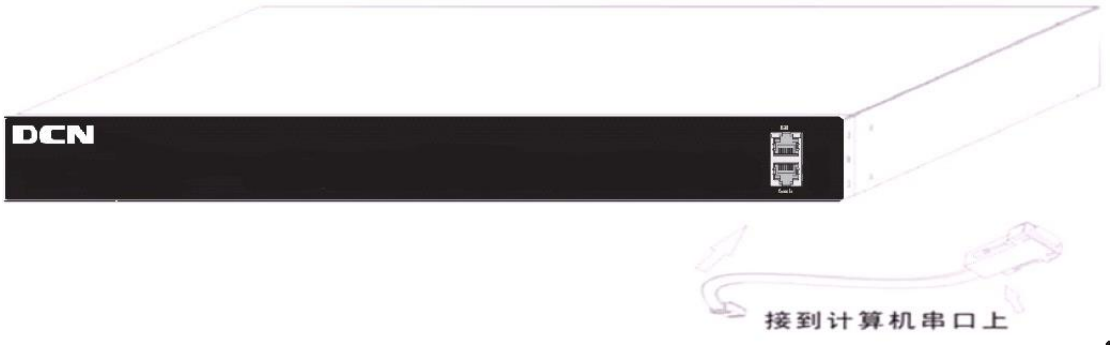

Fig 2-3 Connecting Console to switch

The connection procedure is listed below:

1. Find the console cable provided in the accessory kit. Attach the RJ45 end to console port of the switch.
2. Connect the other side of the console cable to a character terminal (PC).
3. Power on the switch and the character terminal. Configure the switch through the character terminal.

2.3.3 SFP/SFP+ Transceiver Installation

Switch has multiple 10Gb interfaces and provides multiple 1000Mb SFP or 10Gb SFP+ transceiver slots.

The procedure for installing the SFP/SFP+ transceiver is shown below:

Step 1: Put on a ESD wrist strap (or antistatic gloves)

Step 2: Insert the SFP/SFP+ transceiver to the guide rail inside the fiber interface line card. Do not put the SFP/SFP+ transceiver up-side-down.

Step 3: Push the SFP/SFP+ transceiver along the guide rail gently until you feel the transceiver snap into place at the bottom of the line card.

Note: the SFP/SFP+ transceiver is hot swappable.

Caution!

Do not stare directly at the 2 fiber bore in the SFP/SFP+ transceiver when the switch is in operation, otherwise the laser may hurt your eyes.

2.3.4 Copper Cable/Fiber Cable Connection

Copper cables should be connected as below:

Step 1: Insert one end of the Ethernet cable to the RJ-45 Ethernet port in the switch copper cable line card;

Step 2: Insert the other end of the Ethernet cable to the RJ-45 Ethernet port of some other device;

Step 3: Check all status indicators for the corresponding ports; a lighted LED indicates that the link has been established, otherwise the link is not ready and the cable should be examined.

Caution!

Please verify the sign above the port to ensure using the right port. Connecting to wrong ports might damage the switch.

Fiber cables should be connected as below:

Step 1: remove the protective plug from the SFP/SFP+ fiber transceiver bore; Remove the protective cap from one end of the fiber cable. Keep the fiber end clean and neat.

Step 2: Attach one end of the fiber cable to the SFP/SFP+ transceiver, and attach the other end to the transceiver of the other devices. Note: SFP/SFP+ transceiver's TX port should be connected to RX port of other device, and SFP/SFP+ transceiver's RX port should be connected to TX port of other device.

Step 3: Check the fiber port status indicator, a light LED indicates that the link has been established; otherwise the link is not ready and should be examined.

Caution!

Please verify the sign above the port to ensure using the other ports. Connecting to wrong ports might damage the transceiver or the other ports. When connecting other devices through a fiber cable to the switch, the output power of the fiber cable must not exceed the maximum received power of the corresponding modules. Otherwise, it will damage the fiber transceiver. Do not stare at the fiber bore when the switch is in operation. That may hurt your eyes.

2.3.5 Power Supply Connection

Switch uses 220V AC power. Please read the power input specification for the detailed information.

Power supply connection procedure is described as below:

1. Insert one end of the power cable provided in the accessory kit into the power source socket (with overload and leakage protection), and the other end to the power socket in the back panel of the switch.
2. Check the power status indicator in the front panel of the switch. The corresponding power indicator should light. Switch is self-adjustable for the input voltage. As soon as the input voltage is in the range printed on the switch surface, the switch can operate correctly.
3. When the switch is powered on, it executes self-test procedure and startups.

Caution!

The input voltage must be within the required range, otherwise the switch can be damaged or malfunction. Do not open the switch shell without permission. It can cause physical injury.

2.3.6 Ground Cable Connection

Grounding: The chassis of the equipment must be grounded properly so that the lightning can flow to the ground, which improves the capability of the chassis for resisting the electromagnetic interference.

1. Ensure that the grounding cable is connected correctly so that the equipment is protected against lightning and interference. The correct connection of the grounding cable is an important measure to ensure the human safety.
2. Connect the chassis to the ground by using a grounding cable. The grounding resistance must be smaller than 0.10 ohms and the gauge of the grounding cable must be greater than 10 AWG and the length is 50 cm.

3. Installation steps:

Step 1: Ensure the power switch is set to the off position.

Step 2: Use the screwdriver to turn the screws on the earth ground screw point.

Step 3: Strip one end of the ground wire to the ground hole of system.

Step 4: Connect the other end of the ground wire to a suitable grounding point of building at your side.