



## **RG-S2600G-I Series Switch**

### **Hardware Installation and Reference Guide V1.08**

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## Preface

Thank you for using our products. This manual will guide you through the installation of the device.

This manual describes the functional and physical features and provides the device installation steps, hardware troubleshooting, module technical specifications, and specifications and usage guidelines for cables and connectors.

## Audience

It is intended for the users who have some experience in installing and maintaining network hardware. At the same time, it is assumed that the users are already familiar with the related terms and concepts.

## Obtaining Technical Assistance

- Ruijie Networks website: <http://www.ruijienetworks.com/>
- Online customer services: <http://webchat.ruijie.com.cn>
- Customer service center: <http://www.ruijie.com.cn/service.aspx>
- Customer services hotline: +86-4008-111-000
- BBS: <http://support.ruijie.com.cn>
- Customer services email: [Consulting@ruijienetworks.com](mailto:Consulting@ruijienetworks.com)

## Related Documents

Documents	Description
Configuration Guide	Describes network protocols and related mechanisms that supported by the product, with configuration examples.
Command Reference	Describes the related configuration commands, including command modes, parameter descriptions, usage guides, and related examples.

## Symbol Conventions



### Note

Means reader take note. Notes contain helpful suggestions or references.

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### Caution

Means reader be careful. In this situation, you might do something that could result in equipment damage or loss of data.

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## Product Overview

The RG-S2600G-I series switches are the next generation layer-2 switches launched by Ruijie Networks. Integrated with high performance, high security and multiple services, the RG-S2600G-I series switches are mainly applicable to the access layer of large-scale networks to provide full line-rate layer-2 switching and complete QoS policies, and to ensure the undelayed transmission of key data by applying different traffic classification rules to different applications.


■ Table 1-1 RG-S2600G-I series

Model	10/100Base-T adaptive Ethernet port	10/100/1000Base-T adaptive Ethernet port	1000Base-X SFP port	Console port
RG-S2628G-I	24	2	2	1
RG-S2652G-I	48	2	2	1

## RG-S2628G-I

### Technical Specifications

■ Table 1-2 Technical specifications of the RG-S2628G-I Switches

<b>Model</b>	RG-S2628G-I
<b>Module Type</b>	<ul style="list-style-type: none"> <li>■ Gigabit Ethernet:               <ul style="list-style-type: none"> <li>Mini-GBIC-SX</li> <li>Mini-GBIC-LX</li> <li>Mini-GBIC-LH40</li> <li>Mini-GBIC-ZX50</li> <li>Mini-GBIC-ZX80</li> <li>Mini-GBIC-ZX100</li> </ul> </li> <li>■ 1000Base-T:               <ul style="list-style-type: none"> <li>Mini-GBIC-GT</li> </ul> </li> <li>■ SFP stack module               <ul style="list-style-type: none"> <li>GE-SFP-STACK1.6M</li> </ul> </li> </ul> <hr/> <div style="display: flex; align-items: center;">  <p><b>Note</b> The supported module type may change at any time. Contact us for the detailed change information.</p> </div>
<b>SFP Port</b>	1000Base-X 2.5G stack
<b>Power Supply</b>	<ul style="list-style-type: none"> <li>■ AC input:               <ul style="list-style-type: none"> <li>Rated voltage range: 100 to 240 V</li> <li>Maximum voltage range: 90 to 264 V</li> <li>Frequency: 50/60 Hz</li> </ul> </li> </ul>

	Rated current: 0.5 A ■ HVDC input: Input voltage range: 192 to 290 VDC Input current range: 0.15 to 0.07 A
<b>Max. Power Consumption</b>	13 W
<b>Operating Temperature</b>	0°C to 50°C
<b>Storage Temperature</b>	-40°C to 70°C
<b>Operating Humidity</b>	10% to 90% RH
<b>Storage Humidity</b>	5% to 90% RH
<b>Fan</b>	N/A
<b>Temperature Warning</b>	Support
<b>EMC</b>	GB9254-2008
<b>Security Compliance</b>	GB4943-2011
<b>Dimensions (W x D x H)</b>	440 mm x 200 mm x 44 mm
<b>Weight</b>	3.9 kg

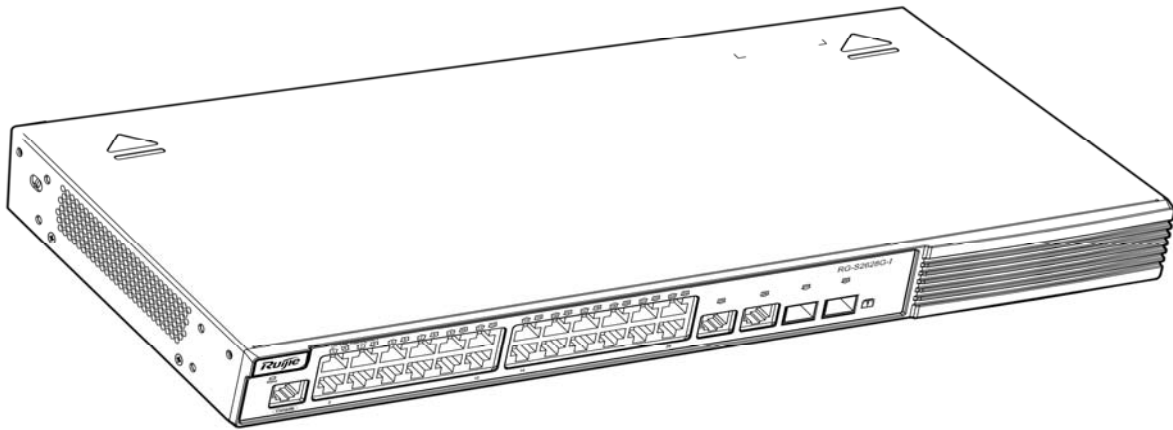


**Note** RG-S2628G-I switch is a class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

## Product Appearance

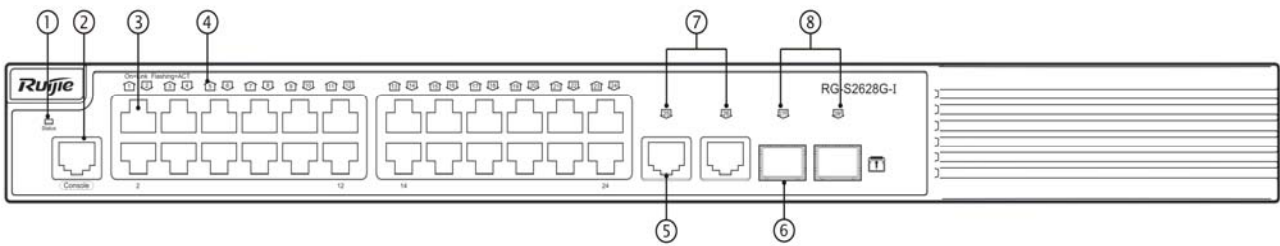
The front panel of the RG-S2628G-I Ethernet switch provides twenty-four 10/100Base-T Ethernet ports, two Gigabit copper ports, two Gigabit SFP fiber ports and one Console port. The back panel provides AC power input ports. Figure 1-1 shows the appearance of the RG-S2628G-I.

Figure 1-1 Appearance of the RG-S2628G-I



### Front Panel

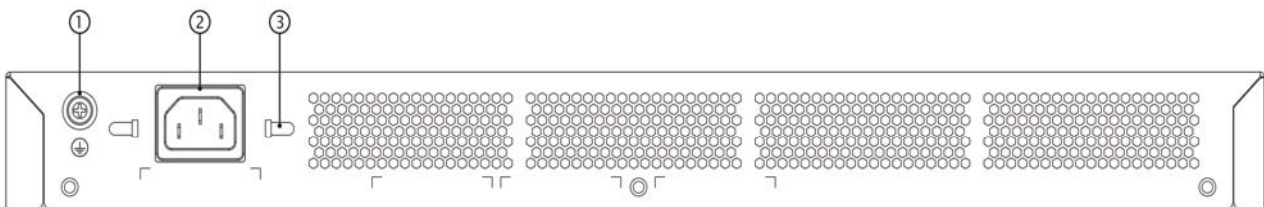
Figure 1-2 RG-S2628G-I front panel



- |             |  |   |
|-------------|--|---|
| <b>Note</b> | 1. Switch LED status indicator                   | 5. 10/100/1000Base-T adaptive Ethernet port           |
|             | 2. Console port                                  | 6. 1000Base-X SFP port/2.5 G stack port               |
|             | 3. 10/100Base-T adaptive Ethernet port           | 7. 10/100/1000Base-T adaptive Ethernet port indicator |
|             | 4. 10/100Base-T adaptive Ethernet port indicator | 8. 1000Base-X SFP port indicator                      |

### Back panel

Figure 1-3 RG-S2628G-I back panel



- |             |                                   |                               |
|-------------|-----------------------------------|-------------------------------|
| <b>Note</b> | 1. Grounding rod                  | 3. Cable plug retention clips |
|             | 2. Three-hole AC power receptacle |                               |

### Power Supply

The RG-S2628G-I switch adopts the AC power input.

■ AC input:

Rated voltage range: 100-240 V

Maximum voltage range: 90-264 V

Frequency: 50/60 Hz

Rated current: 0.5 A

Power cord specification: 10 A power cord

■ HVDC input:

Input voltage range: 192 to 290 VDC

Input current range: 0.15 to 0.07 A

**Heat Dissipation**


The RG-S2628G-I is designed with no fans. To ensure good dissipation, sufficient ventilation space(10 cm distance from both sides and the back panel of the chassis) should be reserved to avoid the air intake of the chassis from being blocked; otherwise, the dissipation might be affected. Dust the device every three months to avoid blocking the ventilation openings.

**LED Indicators**

Indicator	Faceplate Marker	Status	Indication
Status indicator	Status	Off	The switch is not powered on.
		Blinking green	The switch is being initialized. If the blinking persists, however, it indicates that an abnormality occurs.
		Solid green	The switch is in normal operation.
		Solid yellow	It indicates a warning on the switch temperature. Check the working environment of the switch immediately.
		Solid red	Indicates a fault on the switch. For details, refer to Section 5.2 Troubleshooting Common Faults.
RJ-45 port indicator	1~26	Off	The port is not connected to a link.
		Solid green	The link that the port connects to is Up.
		Blinking green	Data are being transeived at the port.
SFP port indicator	27F, 28F	Off	The port is not connected to a link.
		Solid green	The link that the port connects to is Up.
		Blinking green	Data are being transeived at the port.

**RG-S2652G-I**

**Technical specifications**

<b>Model</b>	RG-S2652G-I
<b>Module Type</b>	<ul style="list-style-type: none"> <li>■ Gigabit Ethernet:</li> <li>Mini-GBIC-SX</li> <li>Mini-GBIC-LX</li> <li>Mini-GBIC-LH40</li> <li>Mini-GBIC-ZX50</li> <li>Mini-GBIC-ZX80</li> <li>Mini-GBIC-ZX100</li> <li>■ 1000Base-T:</li> <li>Mini-GBIC-GT</li> <li>■ SFP stack module</li> <li>GE-SFP-STACK1.6M</li> </ul> <hr/>  <p><b>Note</b> The supported module type may change at any time. Contact us for the detailed change information.</p>
<b>SFP Port</b>	1000Base-X 2.5 G stack
<b>Power Supply</b>	<ul style="list-style-type: none"> <li>■ AC input:</li> <li>Rated voltage range: 100-240 V</li> <li>Maximum voltage range: 90-264 V</li> <li>Frequency: 50/60 Hz</li> <li>Rated current: 0.6 A</li> <li>■ HVDC input:</li> <li>Input voltage range: 192 to 290 VDC</li> <li>Input current range: 0.2 to 0.12 A</li> </ul>
<b>Max. Power Consumption</b>	23 W
<b>Operating Temperature</b>	0°C to 50°C -
<b>Storage Temperature</b>	40°C to 70°C
<b>Operating Humidity</b>	10% to 90% RH
<b>Storage Humidity</b>	5% to 90% RH
<b>Fan</b>	N/A
<b>Temperature Warning</b>	Support
<b>EMC</b>	GB9254-2008
<b>Security Compliance</b>	GB4943-2011
<b>Dimensions (W x D x H)</b>	440 mm x 260 mm x 44 mm
<b>Weight</b>	4.2 kg



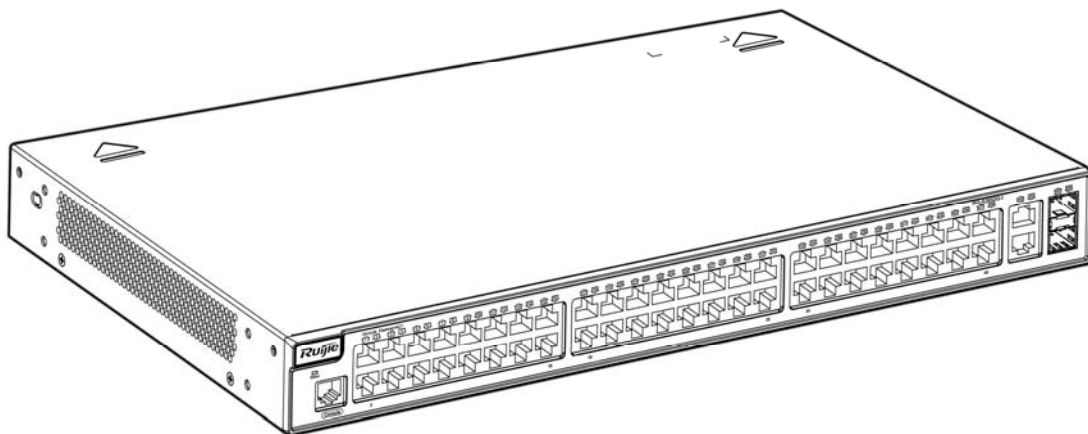


**Note** RG-S2652G-I switch is a class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

**Product Appearance**

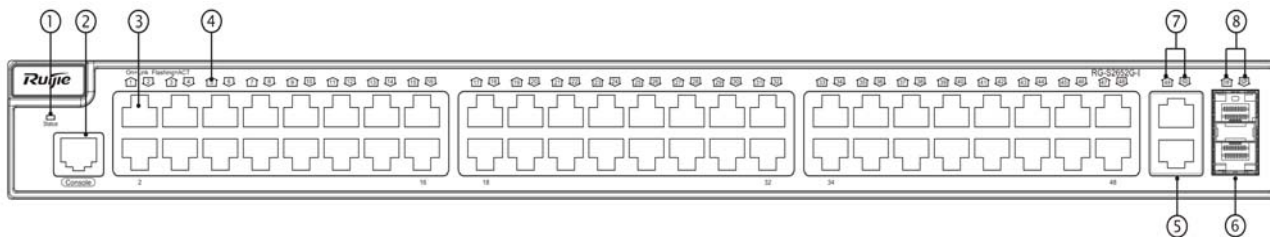
The front panel of the RG-S2652G-I Ethernet switch provides forty-eight 10/100Base-T Ethernet ports, two Gigabit copper ports, two Gigabit SFP fiber ports and one Console port. The back panel provides AC power input ports. Figure 1-4 shows the appearance of the RG-S2652G-I.

Figure 1-4 Appearance of the RG-S2652G-I



**Front Panel**

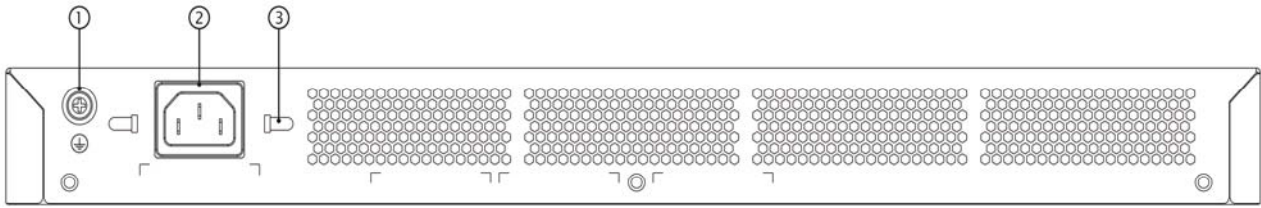
Figure 1-5 RG-S2652G-I front panel



<b>Note</b>	1. Switch LED status indicator	5. 10/100/1000Base-T adaptive Ethernet port
	2. Console port	6. 1000Base-X SFP port/2.5 G stack port
	3. 10/100Base-T adaptive Ethernet port	7. 10/100/1000Base-T adaptive Ethernet port indicator
	4. 10/100Base-T adaptive Ethernet port indicator	8. 1000Base-X SFP port indicator

**Back panel**

Figure 1-6 RG-S2652G-I back panel



**Note**      1. Grounding rod                      3. Cable plug retention clips  
                   2. Three-hole AC power  
                   connector

## Power Supply

The RG-S2652G-I adopts the AC power input.

- AC input:

Rated voltage range: 100-240 V

Maximum voltage range: 90-264 V

Frequency: 50/60 Hz

Rated current: 0.6 A

Power cord specification: 10 A power cord

- HVDC input:

Input voltage range: 192 to 290 VDC

Input current range: 0.2 to 0.12 A

## Heat Dissipation

The RG-S2652G-I is designed with no fans. To ensure good dissipation, sufficient ventilation space (10cm distance from both sides and the back panel of the chassis) should be reserved to avoid the air intake of the chassis being blocked; otherwise, the dissipation might be affected. Dust the device every three months to avoid blocking the ventilation openings.

## LED Indicators

Indicator	Faceplate Marker	Status	Indication
Status indicator	Status	Off	The switch is not powered on.
		Blinking green	The switch is being initialized. If the blinking persists, however, it indicates that an abnormality occurs.
		Solid green	The switch is in normal operation.
		Solid yellow	It indicates a warning on the switch temperature. Check the working environment of

Indicator	Faceplate Marker	Status	Indication
			the switch immediately.
		Solid red	Indicates a fault on the switch. For details, refer to Section 5.2 Troubleshooting Common Faults.
RJ-45 port indicator	1~50	Off	The port is not connected to a link.
		Solid green	The link that the port connects to is Up.
		Blinking green	Data are being transceived at the port.
SFP port indicator	51F, 52F	Off	The port is not connected to a link.
		Solid green	The link that the port connects to is Up.
		Blinking green	Data are being transceived at the port.

## Preparation before Installation

### Safety Suggestions

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**Note**

To avoid personal injury and equipment damage, please carefully read the safety suggestions before you install the RG-S2600G-I series.

**Note**

The following safety suggestions do not cover all possible dangers.

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### Safety Precautions for Installing the System

- Keep the chassis clean and free from any dust.
- Do not place the equipment in a walking area.
- Do not wear loose clothes or any other things that may be caught by the chassis during installation and maintenance.
- Turn off all power supplies and remove the power sockets and cables before dismantling the cabinet.

### Movement Safety

- Do not frequently move the device.
- When moving the device, note the balance and avoid hurting legs and feet or straining the back.
- Before moving the device, turn off all power supplies and dismantle all power modules.

### Electric Safety

- Observe local regulations and specifications when performing electric operations. Relevant operators must be qualified.
  - Carefully check any potential danger in the working area, such as ungrounded power supply, unreliable grounding of the power supply, and damp/wet ground or floor.
  - Find out the location of the emergency power supply switch in the room before installation. First cut off the power supply in the case of an accident.
  - Try to avoid maintaining the switch that is powered-on alone.
  - Be sure to make a careful check before you shut down the power supply.
  - Do not place the equipment in a damp location. Do not let any liquid enter the chassis.
- 

**Caution**

1. Any nonstandard and inaccurate electric operation may cause an accident such as fire or electrical shock, thus causing severe even fatal damages to human bodies and equipment.

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**Caution** 2. Direct or indirect touch through a wet object on high-voltage and mains supply may bring a fatal danger.

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## Static Discharge Damage Prevention

To prevent damage from static electricity, pay attention to the following:

- 1. Proper grounding of the equipment and floor
- 2. Indoor dust prevention
- 3. Proper humidity conditions

## Laser Safety

Among the modules supported by the RG-S2600G-I series, a great number of optical modules are Class I laser products. Therefore, pay attention to the following when you use them:

- When a fiber transceiver works, ensure that the port has been connected with an optical fiber or is covered with a dust cap, to keep out dust and avoid burning your eyes.
- Do not stare into any optical port.



**Caution** Do not stare into any optical port under any circumstances, as this may cause permanent damage to your eyes.

---

## Installation Site Requirements

The RG-S2600G-I series must be used indoors. To ensure the normal working and a prolonged durable life of the equipment, the installation site must meet the following requirements.

### Ventilation Requirements

For the RG-S2600G-I series, you must ensure that sufficient space(at least 10cm distance from both sides and the backplane of the cabinet) is reserved at the ventilation openings to ensure the normal ventilation. After various cables have been connected, they should be arranged into bundles or placed on the cable management bracket to avoid blocking the air intakes. Dust the device every three months to avoid blocking the ventilation openings.

### Temperature and Humidity Requirements

To ensure the normal operation and prolong the service life of RG-S2600G-I series, you should keep proper temperature and humidity in the equipment room.

If the equipment room has temperature and humidity that do not meet the requirements for a long time, the equipment may be damaged.

- In an environment with high relative humidity, the insulating material may have bad insulation or even leak electricity. Sometimes the materials may suffer from mechanical performance change and metallic parts may get rusted.
- In an environment with low relative humidity, however, the insulating strip may dry and shrink. Static electricity may occur easily and endanger the circuit on the equipment.
- In an environment with high temperature, the equipment is subject to even greater harm, as its performance may degrade significantly and its useful life may be shortened in the case of long-term exposure that expedites the aging process.

Therefore, the ambient temperature and humidity of the RG-S2600G-I must meet the requirements listed in Table 2-1:

Table 2-1 Temperature and humidity requirements of the RG-S2600G-I series

Temperature	Relative Humidity
0°C-50°C	10%-90%



**Caution** The ambient temperature and humidity are measured at the point that is 1.5 m above the floor and 0.4 m before the equipment when there is no protective plate in front or back of the equipment rack.

## Cleanness Requirements

Dust poses the top threat to the running of the equipment. The indoor dust falling on the equipment may be adhered by the static electricity, causing bad contact of the metallic joint. Such electrostatic adherence may occur more easily when the relative humidity is low, not only affecting the use life of the equipment, but also causing communication faults. The following table shows the requirements for the dust content and granularity in the equipment room.

Table 2-2

Substance	Concentration Limit (particles/m <sup>3</sup> )
Dust particles (diameter $\geq 0.5 \mu\text{m}$ )	$\leq 3.5 \times 10^6$
Dust particles (diameter $\geq 5 \mu\text{m}$ )	$\leq 3 \times 10^4$

Apart from dust, the salt, acid and sulfide in the air in the equipment room must also meet strict requirements; as such poisonous substances may accelerate the corrosion of the metal and the aging of some parts. The equipment room should be protected from the intrusion of harmful gases (for example, SO<sub>2</sub>, H<sub>2</sub>S, NO<sub>2</sub> and Cl<sub>2</sub>), whose requirements are listed in the following table.

Table 2-3

Gas	Average (mg/m <sup>3</sup> )	Maximum (mg/m <sup>3</sup> )
SO <sub>2</sub>	0.3	1.0
H <sub>2</sub> S	0.1	0.5
NO <sub>2</sub>	0.5	1.0
Cl <sub>2</sub>	0.1	0.3

**Note**

The **Average** refers to the average limit of harmful gas in one week. The **Maximum** value is the upper limit of the harmful gas measured in one week for up to 30 minutes every day.

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**EMI**

During applications, the switch may be subject to external interferences that affect the device through conduction manners such as capacitance coupling, inductive coupling, electromagnetic wave emission, common impedance (including grounding systems), and wires (power cables, signal cables and outgoing transmission cables). For that purpose, note that:

- For the AC power supply system TN, single-phase three-core power socket with protective earthing conductors (PE) should be adopted to effectively filter out interference from the power grid through the filtering circuit.
- The switch should be located at places free from large power radio launch pad, radar launch pad, and high-frequency large-current devices.
- If necessary, electromagnetic shielding should be adopted. For example, use interface cables to shield cables.
- Interface cables should be laid inside the equipment room. Outdoor cabling is prohibited, avoiding damages to device signal interfaces caused by over-voltage or over-current of lightning.

**System Grounding Requirements**

A good grounding system is the basis for the stable and reliable operation of the RG-S2600G-I series. It is the chief condition to prevent lightning stroke and resist interference. Please carefully check the grounding conditions on the installation site according to the grounding requirements, and perform grounding operations properly as required.

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**Caution**

The correct connection of grounding lines guarantees the lightning and interference resistance of switches and must be performed with precision.

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**Safety Grounding**

The equipment using AC power supply must be grounded by using the yellow/green safety grounding cable. Otherwise, when the insulating resistance decreases the power supply and the enclosure in the equipment, electric shock may occur.

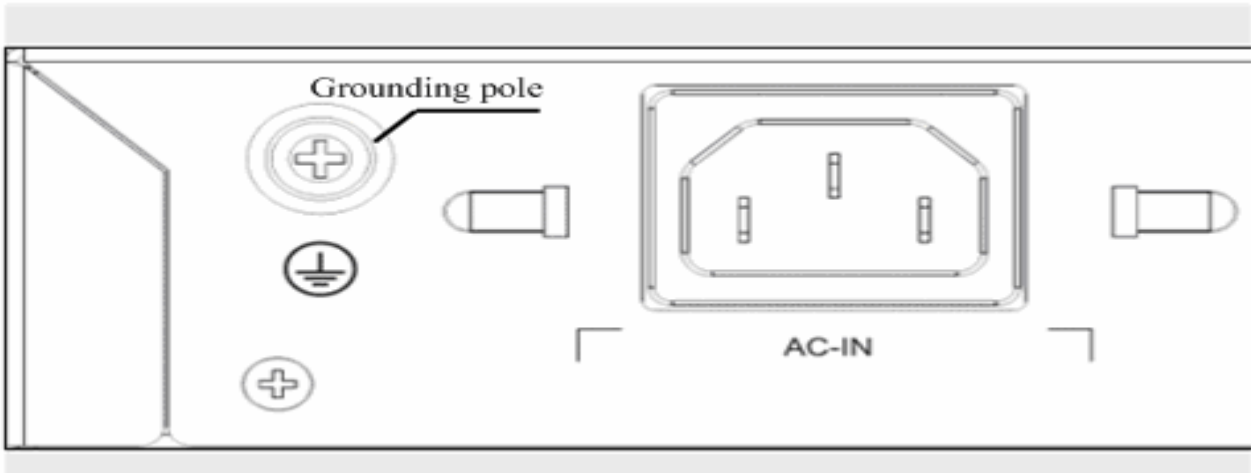
**Lightning Grounding**

The lightning protection system of a facility is an independent system that consists of the lightning rod, downlead conductor and the connector to the grounding system, which usually shares the power reference ground and yellow/green safety cable ground. The lightning discharge ground is for the facility only, irrelevant to the equipment.

## EMC Grounding

The grounding required for EMC design includes shielding ground, filter ground, noise and interference suppression, and level reference. All the above constitute the comprehensive grounding requirements. The grounding resistance should be less than 1 ohm. The RG-S2600G-I backplane is reserved with one grounding pole, as shown in 2-1.

Figure 2-1 Schematic diagram of the RG-S2600G-I grounding



## Lightning Resistance Considerations

When the AC power cable is imported outdoors and directly connected to the power port of the switch, lightning line bank should be adopted to prevent the switch from being hit by lightning shocks. The lightning line bank can be fixed on the cabinet, work station, or the equipment room's wall through line buckles and screws. In applications, the AC first enters the lightning line bank and then the switch.



**Caution** The lightning line banks are not provided and should be purchased by users as required.



**Caution** For the usage of lightning line banks, refer to their related manuals.

## EMI Consideration

Various interference sources, from either outside or inside the equipment or application system, affect the system in the conductive ways such as capacitive coupling, inductive coupling, and electromagnetic radiation.

There are two types of electromagnetic interferences: radiated interference and conducted interference, depending on the type of the transmission path.

When the energy, often RF energy, from a component arrives at a sensitive component via the space, the energy is known as radiated interference. The interference source can be either a part of the interfered system or a completely electrically isolated unit. Conducted interference results from the electromagnetic wire or signal cable connection between



the source and the sensitive component, along which cable the interference conducts from one unit to another. Conducted interference often affects the power supply of the equipment, but can be controlled by a filter. Radiated interference may affect any signal path in the equipment and is difficult to shield.

- 1. Effective measures should be taken for the power system to prevent the interference from the electric grid.
- 2. The working ground of the switch should be preferably separated and kept as far as possible from the grounding device of the power equipment or the anti-lightning grounding device.
- 3. Keep the equipment away from high-power radio transmitter, radar transmitting station, and high-frequency large-current device.
- 4. Measures must be taken to shield static electricity.

## Precaution for Fiber Connections

Before you connect the fibers, check that the optical connector type and fiber type match the optical interface type used. In addition, pay attention to the Tx and Rx directions of the fiber. The Tx end of this equipment should be connected to the Rx end of the peer equipment, and the Rx end of this equipment to the Tx end of the peer equipment.

## Requirements of Installation Tools

- Table 2-4 List of installation tools

<b>Common tools</b>	Cross screwdriver, straight screwdriver, related electric cables and optical cables, bolts, diagonal pliers, straps
<b>Special tools</b>	Anti-static tools
<b>Meters</b>	Multimeter



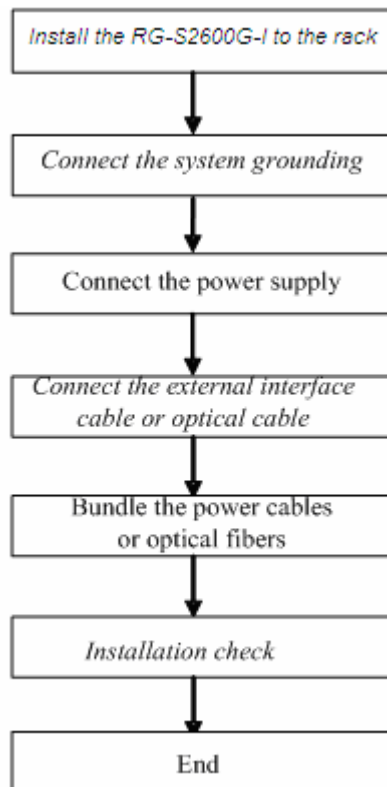
**Caution** The RG-S2600G-I series are not provided with a tool kit. Please prepare tools on your own.

## Product Installation



**Caution** Please ensure that you have carefully read Chapter 2. Make sure that the requirements set forth in Chapter 2 have been met.

### Installation Procedure



### Confirmations before Installation

Before installation, please confirm the following points:

- Whether sufficient airflow is available for the switch
- Whether the requirements of the switch for temperature and humidity are met
- Whether power cables are already laid out and whether the requirements of electrical current are met
- Whether related network adaption lines are already laid out

### Installing the RG-S2600G-I Series

#### Precautions

During installation, note the following points:

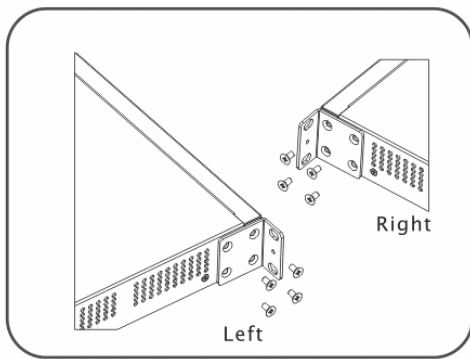
- Connect the power cables of different colors to the corresponding grounding posts.
- Ensure that the connected power cables have sound contact.
- Do not place heavy items on the switch.
- Reserve a spacing of at least 10 cm around the chassis for good ventilation. Do not stack the devices.
- The switch should be located at places free from the large power radio launch pad, radar launch pad, and high-frequency large-current devices. If necessary, electromagnetic shielding should be adopted. For example, use interface cables to shield cables.
- Interface cables should be laid inside the equipment room. Outdoor cabling is prohibited, avoiding damages to device signal interfaces caused by over-voltage or over-current of lightning.

### Mounting the Switch in a Standard 19-inch Rack

The RG-S2600G-I series switches are designed with the EIA standard dimensions and can be installed in 19-inch rack.

Attach the mounting brackets to the switch with the supplied screws, as shown in Figure 3-2.

Figure 3-2 Attaching the Mounting Bracket to the Switch



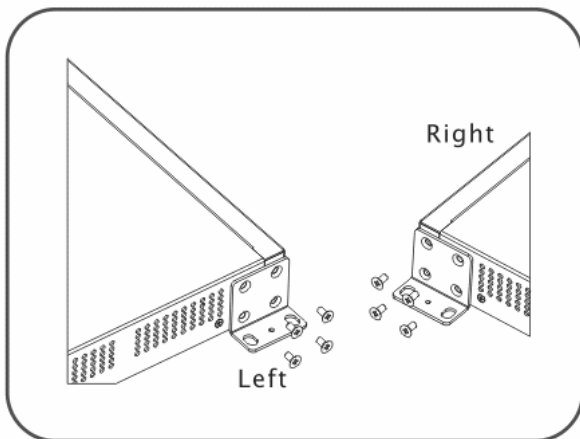
Fix on the 19inch-standards rack

### Mounting the Switch on the Wall

The RG-S2600G-I series switches can be mounted on a wall.

Attach the mounting brackets to the switch with the supplied screws, as shown in Figure 3-3.

Figure 3-3 Attaching the Mounting Brackets to the Switch for Wall-Mounting



Rotate the fixed frames by 90 degree when it is mounted on the wall

## Mounting the Switch on a Table

Step 1: Attach the four rubber feet to the recessed areas on the bottom of the switch.

Step 2: Place the switch on the table.

## Checking after Installation

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**Caution** Before checking the installation, switch off the power supply so as to avoid any personal injury or damage to the component due to connection errors.

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- Check that the ground line is connected.
- Check that the cables and power input cables are correctly connected.
- Check that all interface cables are laid out inside the equipment room. In the case of external cabling, check that the lightning resistance socket or network interface lightning protector is connected.
- Check that sufficient airflow is available around the device (over 10 cm).

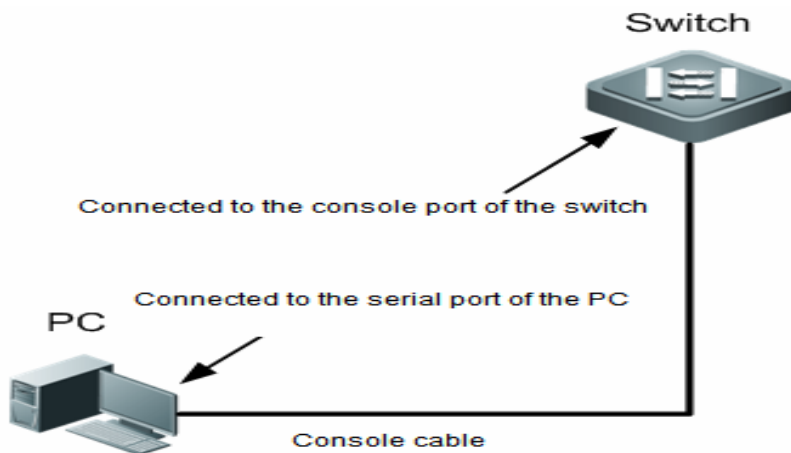
## System Debugging

### Establishing the Configuration Environment

#### Establishing the Configuration Environment

Connect the PC to the console port of the switch through the console cable, as shown in Figure 4-1.

Figure 4-1 Schematic diagram of the configuration environment



#### Connecting the Console Cable

Step 1: Connect one end of the DB-9 jack of the console cable to the serial port of the PC.

Step 2: Connect one end of the console cable RJ45 to the console port of the switch.

#### Setting Terminal Parameters

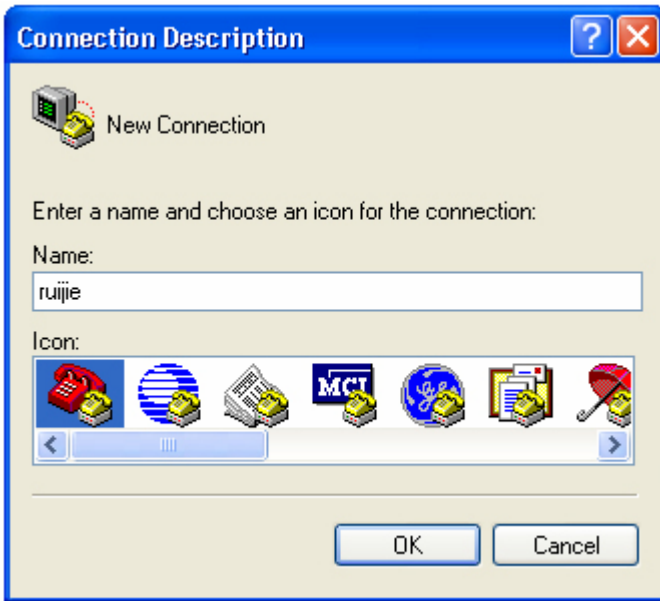
Step 1: Start the PC and run the terminal simulation program on the PC, such as Terminal on Windows 3.1 or HyperTerminal on Windows 95/98/NT/2000/XP.

Step 2: Set terminal parameters. The parameters are as follows: baud rate 9600, data bit 8, parity check none, stop bit 1, and flow control as none.

Choose **Setup > Program > Attachment > Communication > Hyper Terminal**.

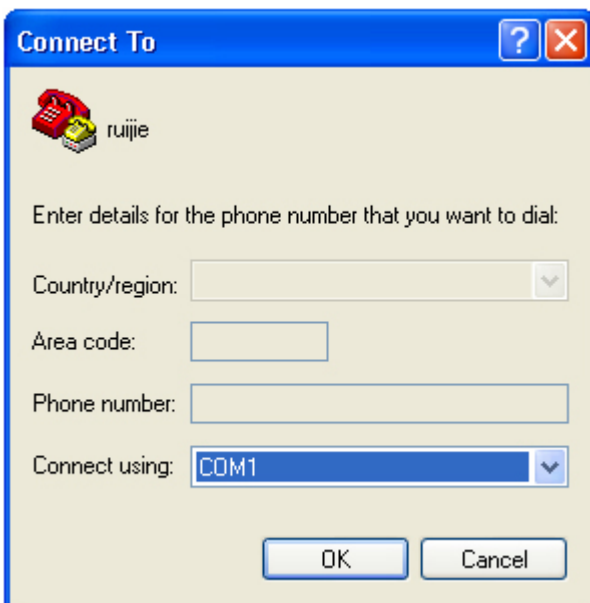
Choose **Cancel**, the interface as shown in Figure 4-2 is displayed.

Figure 4-2



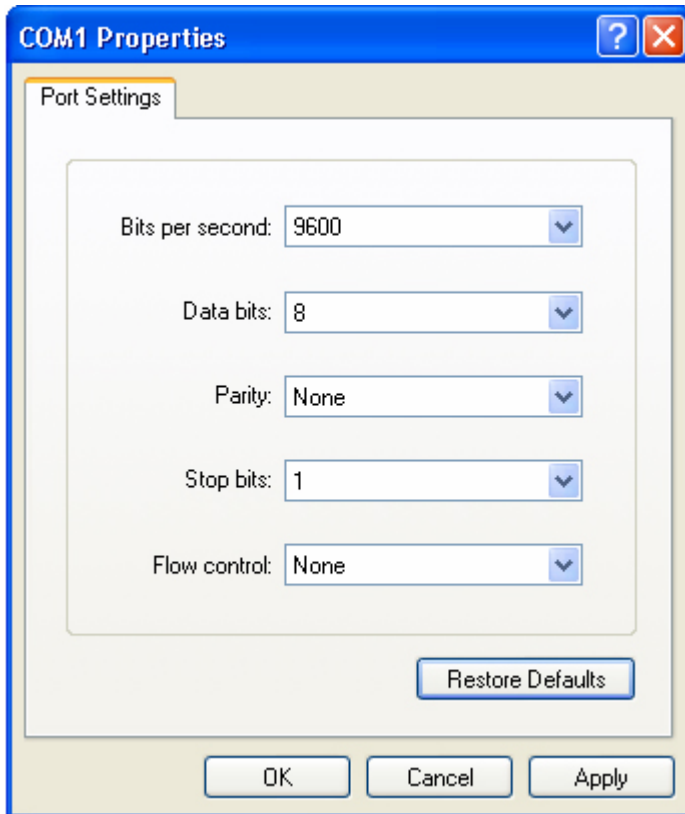
Enter the name of the new connection and click **OK**, the interface as shown in Figure 4-3 is displayed. Choose the serial port used currently in the column [use when connecting].

Figure 4-3



After choosing the serial port, click **OK** to display the serial port parameter setting interface, set the baud rate to 9600, data bit to 8, parity check to none, stop bit to 1 and flow control to none.

Figure 4-4



After setting the parameters, click **OK** to enter the hyper terminal interface.

## Power-on Startup

### Checking before Power-on

- The switch is fully grounded.
- The power cable is correctly connected.
- The power supply voltage complies with the requirement of the switch.
- The console cable is correctly connected; the terminal (can be a PC) used for configuration is already started; the parameters are already configured.

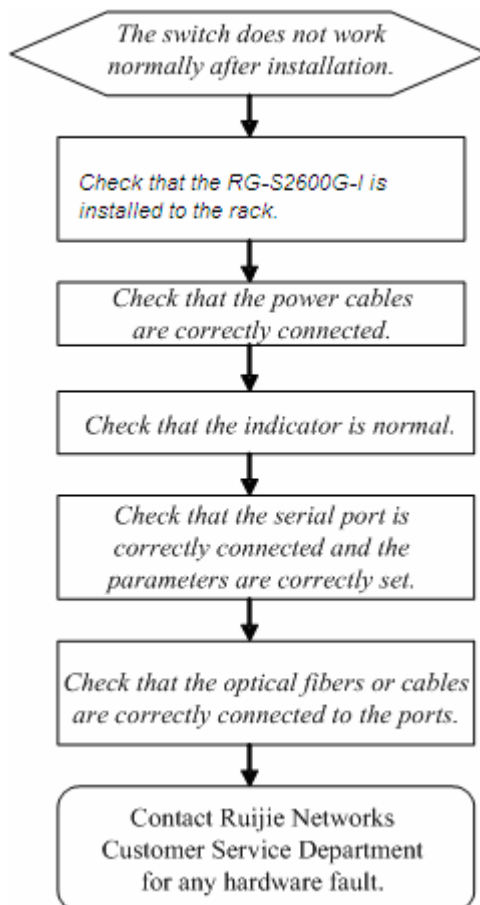
### Checking after Power-on (Recommended)

After power-on, you are recommended to perform the following checks to ensure the normal operation of follow-up configurations.

- Check that information is displayed on the terminal interface.
- Check that the device indicator is normal.

## Maintenance and Troubleshooting

### General Troubleshooting Procedure



### Troubleshooting Common Faults

Symptom	Possible Causes	Solution
Forgetting the management interface login password		Please contact Ruijie Networks Customer Service Department for technical support.
The status indicator is not on after the switch is started.	The power supply module does not supply power. The power cable is in loose contact.	Check whether the power socket at the equipment room is normal and whether the power cable of the switch is in good contact.
The status indicator is red.	Temperature alarm	At this time, the switch already stops the normal service exchanges. Check in time the working environment of the switch, clean the dust on the cabinet and reinforce the refrigeration effect.



Symptom	Possible Causes	Solution
The serial port console has no output or outputs illegible characters.	The serial port connected to the switch does not match that opened by the configuration software. The serial port is not configured correctly.	Change the serial port opened by the configuration software to be the one connected to the switch. Check that the parameter configuration of the serial port matches that specified in the instructions.
The RJ45 port is not in connectivity or it is erroneous in receiving/transmitting frames.	The connected twisted pair cable is faulty. The length of the cable exceeds 100 m. The port has special configuration that has no common working mode with the connected switch.	Replace the twisted pair cable. Check that the port configuration has the common working mode with the connected switch.
The fiber port cannot be connected.	The Rx and Tx ends are connected reversely. The interconnected optical module type does not match. The fiber type is not correct. The length of the optical fiber exceeds that rated of the optical module.	Switch the Rx and Tx ends of the optical fiber. Replace the optical module with one of the matched type. Replace the optical fiber with one of the appropriate type. Replace the optical fiber with one of the appropriate length.

## Appendix A: Connectors and Connection Media

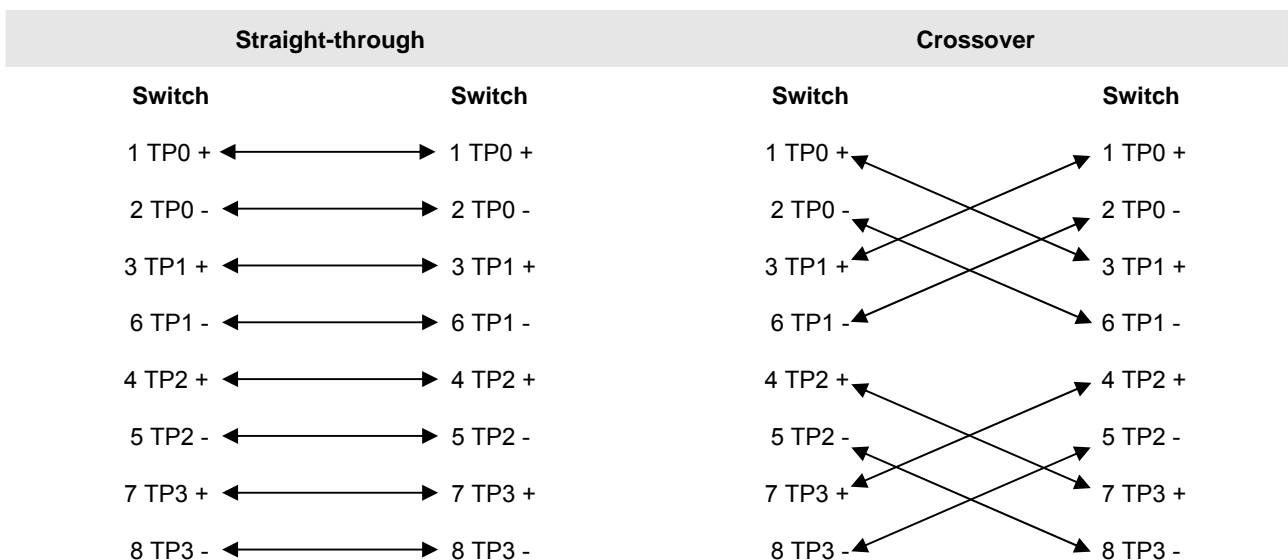
### 1000BASE-T/100BASE-TX/10BASE-T Ports

The 1000BASE-T/100BASE-TX/10BASE-T is a port that supports adaptation of three rates, and automatic MDI/MDIX Crossover at these three rates.

The 1000BASE-T complies with IEEE 802.3ab, and uses the cable of 100-ohm Category-5 or Supper Category-5 UTP or STP, which can be up to 100 m.

The 1000BASE-T port uses four pairs of wires for transmission, all of which must be connected. 0 shows the connections of the twisted pairs used by the 1000BASE-T port.

Figure A-1 Schematic diagram for the four twisted pairs of the 1000BASE-T



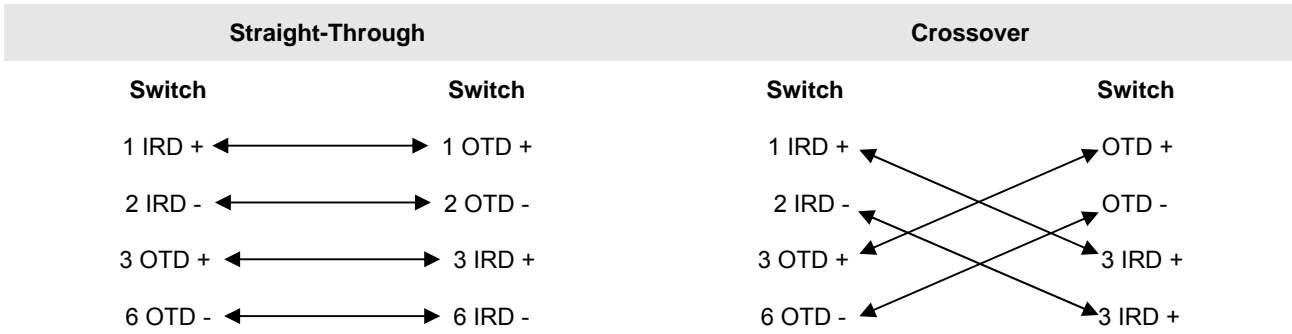
In addition to the above cables, the 100BASE-TX/10BASE-T can also use 100-ohm Category-3, 4, 5 cables for 10 Mbps, and 100-ohm Category-5 cables for 100 Mbps, both of which can be up to 100 m. 0 shows the pinouts of the 100BASE-TX/10BASE-T.

Figure A-2 Pinouts of the 100BASE-TX/10BASE-T

Pin	Socket	Plug
1	Input Receive Data+	Output Transmit Data+
2	Input Receive Data-	Output Transmit Data-
3	Output Transmit Data+	Input Receive Data+
6	Output Transmit Data-	Input Receive Data-
4、5、7、8	Not Used	Not Used

0 shows the straight-through and crossover cable connections for the 100BASE-TX/10BASE-T.

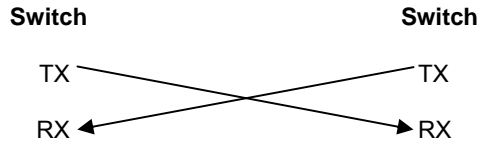
Figure A-3 Connections of the twisted pairs of the 100BASE-TX/10BASE-T



### Fiber-Optic Connection

For fiber ports, select single-mode or multimode fibers for connection according to the fiber module connected. The connection schematic diagram is shown in 0:

Figure A-4 Schematic diagram for fiber connection



## Appendix B Mini-GBIC Modules

We provide appropriate 1000M SFP modules (Mini-GBIC modules) for different module interfaces of the switch. You can select the SFP module as needed. The following models and technical specifications of some 1000M SFP modules are listed for your reference.

### Models and Technical Specifications of the Mini-GBIC (SFP) Module

Table B-1 Models and Technical Specifications of the SFP Module

Mini-GBIC (SFP)	Wavelength (nm)	Media Type	Core Size (μm)	Modal Bandwidth (MHz/km)	Cabling Distance	Max Optical Intensity (dbm)	Max Reception Sensitivity (dbm)	Standard Compliance
FE-SFP-LX-M M1310	1310	Multimode fiber	62.5/125	N/A	2 km	-14	-14	IEEE802.3
FE-SFP-LH15-SM1310	1310	Single-mode fiber	9/125	N/A	15 km	-8	-8	
Mini-GBIC-SX	850	Multimode fiber	62.5 62.5 50.0 50.0	160 200 400 500	220 m 275 m 500 m 550 m	-4	-17	
Mini-GBIC-LX	1310	Multimode fiber Single-mode fiber	62.5 50.0 50.0 9/10	500 400 500 N/A	550 m 550 m 550 m 10 km	-3	-20	
Mini-GBIC-LH 40	1310	Single-mode fiber	9/125	N/A	40 km	3	-3	
Mini-GBIC-ZX 50	1550	Single-mode fiber	N/A	N/A	50 km	0	-22	
Mini-GBIC-ZX 80					80 km	4.7	-22	
Mini-GBIC-ZX 100					100 km	5	-9	
Mini-GBIC-G T	N/A	CAT 5 UTP	N/A	N/A	100 m	N/A	N/A	
GE-SFP-STACK1.6M	N/A	Copper cable	N/A	N/A	1.6 m	N/A	N/A	



**Caution**

For the optical module with transmission distance exceeding 40 km and more, one on-line optical attenuator should be added on the link to avoid the overload of the optical receiver when short single-mode optical fibers are used.

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## Appendix C Site Selection

- The machine room should be at least 5km away from the heavy pollution source such as the smelter, coal mine and thermal power plant, 3.7km away from the medium pollution source such as the chemical industry, rubber industry and electroplating industry, and 2km away from the light pollution source such as the food manufacturer and leather plant. If the pollution source is unavoidable, the machine room should be located on the windward side of the pollution source perennially with advanced protection.
- The machine room should be at least 3.7km away from the sea or salt lake. Otherwise, the machine room must be sealed, with air conditioner installed for temperature control. Saline soil cannot be used for construction. Otherwise, you should select devices with advanced protection against severe environment.
- Do not build the machine room in the proximity of livestock farms. Otherwise, the machine room should be located on the windward side of the pollution source perennially. The previous livestock house or fertilizer warehouse cannot be used as the machine room.
- The machine room should be firm enough to withstand severe weather conditions such as windstorm and heavy rain as well as away from dust. If the dust is unavoidable, keep the door and window away from the pollution source.
- The machine room should be away from the residential area. Otherwise, the machine room should meet the construction standard in terms of noise.
- Make sure the air vent of the machine room is away from the sewage pipe, septic tank, and sewage treatment tank. Keep the machine room under positive pressure to prevent corrosive gas from entering the machine room to corrode components and circuit boards. Keep the machine room away from industrial boiler and heating boiler.
- The machine room had better be on the second floor or above. Otherwise, the machine room floor should be 600mm higher than the highest flood level ever recorded.
- Make sure there are no cracks or holes in the wall and floor. If there are cable entries in the wall or window, take proper sealing measures. Ensure that the wall is flat, wear-resistant, and dust-free, which should be up to the standard for flame retarding, soundproofing, heat absorption, dust reduction, and electromagnetic shielding.
- Keep the door and the window closed to make the machine room sealed.
- The steel door is recommended for soundproofing.
- Sulfur-containing materials are forbidden.
- Pay attention to the location of the air conditioner. Keep the air conditioner from blowing wind straight toward the device or blowing water drops from the window or air vent toward the device.