RG-S5750-S Series Switch

Hardware Installation and Reference Guide V1.15

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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

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.

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

Chapter 1 Product Overview

The RG-S5750-S series switches are the next generation Layer 3 switches introduced by Ruijie Networks. Featuring high performance, reliable security, and multiple services, the RG-S5750-S series switches are mainly applicable to the convergence layer of large-scale networks to provide full wire-speed exchanging and complete QoS services, classify different services according to different business needs and ensure the prompt transmission of key data. The RG-S5750-S series switches can provide various medium interfaces to meet the requirement for interfaces in network constructions.

RG-S5750-S Series Switches

Table1-1

Model	10/100/1000Base-T adaptive Ethernet port	1000Base-X SFP port	Console Port	USB Port	Extension Module Slot	Redundant Power Supply
RG-S5750-24GT/8SFP-S	24	8 (Combo)	1	0	2	RPS
RG-S5750-48GT/4SFP-S	48	4 (Combo)	1	0	2	RPS
RG-S5750-24SFP/8GT-S	8 (combo)	24	1	1	2	Dual power supplies

RG-S5750-24GT/8SFP-S

Technical Specifications

Table1-2

Model	RG-S5750-24GT/8SFP-S
Optical Module Type	■ Ethernet 100M: FE-SFP-LX-MM1310 FE-SFP-LH15-SM1310 FE-SFP-LX20-SM1310-BIDI FE-SFP-LX20-SM1550-BIDI FE-SFP-LH40-SM1310-BIDI FE-SFP-LH40-SM1550-BIDI ■ Ethernet 1000M: Mini-GBIC-SX Mini-GBIC-LX Mini-GBIC-LH40 GE-SFP-LX20-SM1310-BIDI GE-SFP-LX20-SM1550-BIDI GE-SFP-LH40-SM1310-BIDI GE-SFP-LH40-SM1550-BIDI

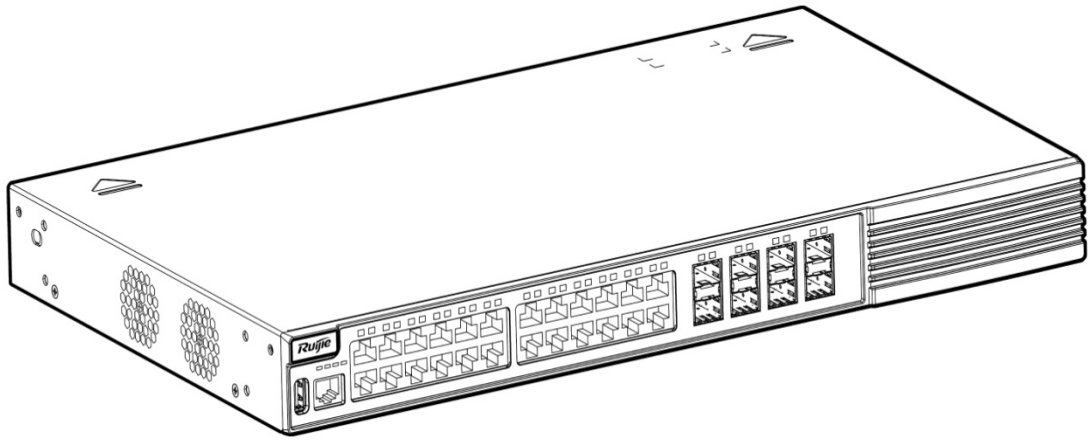
	Mini-GBIC-ZX50 Mini-GBIC-ZX80 Mini-GBIC-ZX100 ■ 1000Base-T: Mini-GBIC-GT  Note The supported module type may change at any time. For the detailed change information, consult the Ruijie Networks.  Note The Bi-Directional (BIDI) optical modules must be used in pairs. For details about the pairs of BIDI modules, see the Appendix B.
Extended Module Type	M5000E-02SFP/GT M5000E-01XS M5000E-02XS
SFP Port	100Base-X 1000Base-X
RPS Type	RG-RPS150
Power Supply	AC input: Rated voltage range: 100–240 V AC Maximum voltage range: 90–264 V AC Frequency: 50/60 Hz Rated current: 1.5 A HVDC input: Voltage range: 192–290 V DC Current range: 0.5–0.24 A
Max. Power Consumption	58 W (with extension modules); 42 W (without extension modules)
Temperature	Working temperature: 0–50ºC Storage temperature: -40–70ºC
Humidity	Working humidity: 10%–90% RH Storage humidity: 5%–90% RH
Fan	Support adjustment of fan speed and warning of fan trouble.
Temperature Warning	Temperature warning function
EMC	GB9254-2008
Security Compliance	GB4943-2011
Dimensions (W x D x H)	440 mm x 260 mm x 44 mm
Weight	4.6 kg (with extension modules); 3.6 kg (without extension modules)

Caution RG-S5750-24GT/8SFP-S 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

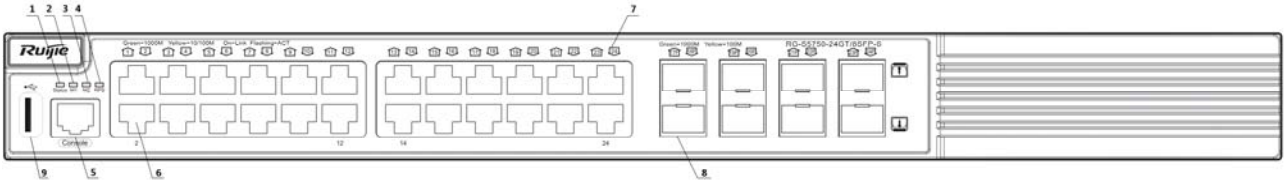
The front panel of the RG-S5750-24GT/8SFP-S Ethernet switch provides twenty four 10/100/1000Base-T Ethernet ports, eight 1000M SFP fiber/copper combo ports, one Console port and one USB port. The back panel provides AC power input ports, RPS input ports and two extension module slots.

Figure 1-1 Appearance of the RG-S5750-24GT/8SFP-S



Front Panel

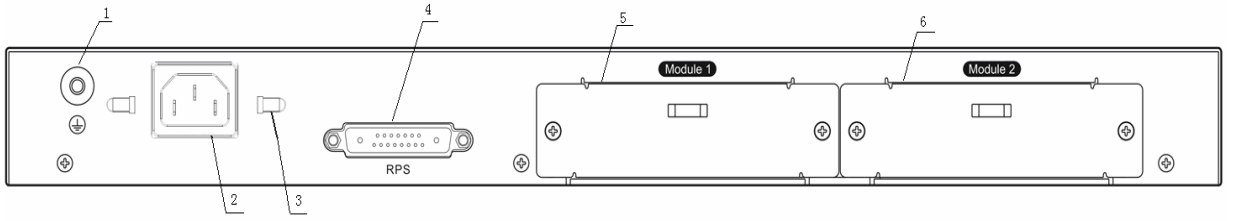
Figure 1-2 RG-S5750-24GT/8SFP-S Front Panel



Note:		
	1. Switch status indicator	6. 10/100/1000Base-T adaptive Ethernet port
	2. Extension module 1 status indicator	7. Port status indicator
	3. Extension module 2 status indicator	8. 100/1000Base-X SFP port
	4. RPS status indicator	9. USB port
	5. Console port	

Back Panel

Figure 1-3 RG-S5750-24GT/8SFP-S Back Panel



Note:	1. Grounding pole	4. RPS input port
	2. 3-core AC power port	5. Slot for extension module 1
	3. Power defense shedding plug	6. slot for Extension module 2

Power Supply System

The RG-S5750-24GT/8SFP-S adopts the AC power input and RPS input.

AC input:

- Rated voltage range: 100–240 V AC
- Maximum voltage range: 90–264V AC
- Frequency: 50/60 Hz
- Rated current: 1.5 A
- Power cable: 10 A power cable

HVDC input:

- Voltage range: 192–290 V DC
- Current range: 0.5–0.24 A

RPS input:

- The switch power can be supplied by the redundant power input or both the AC input and redundant power input.
- When both the AC input and the redundant power input are available, the switch power is supplied by the AC power input;
- When the AC input is unavailable, the switch power supply switches to the redundant power input seamlessly.

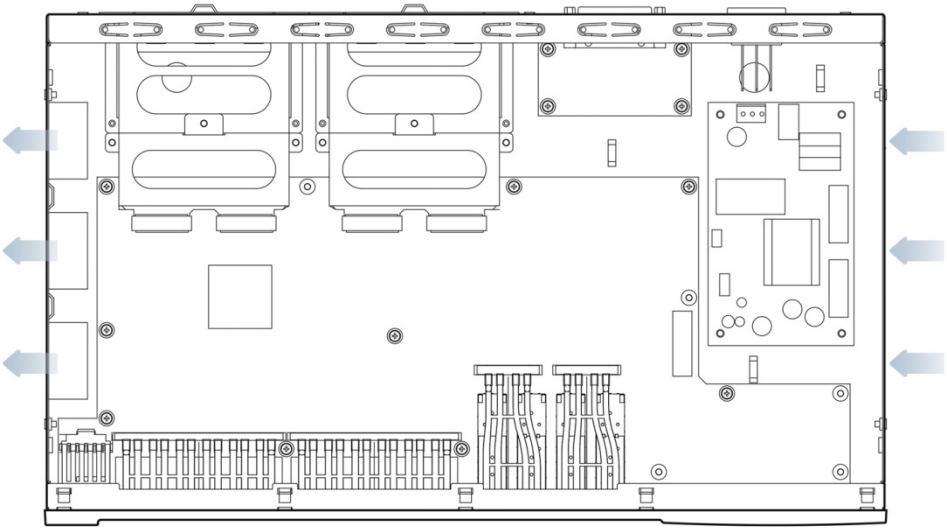
Caution

At present, the redundant power supply interface can be used together with the RPS150 that are manufactured by Ruijie Networks. Unless otherwise stated, other power supply modules cannot be used for power input; otherwise, an abnormality may occur or damage the switch.

Cooling System

The RG-S5750-24GT/8SFP-S is designed with left and right fans for heat dissipation purposes, thereby ensuring the device's functioning in the specified environment. Sufficient space (10 cm distance from both sides and the backplane of the cabinet) should be reserved to allow air circulation. Dust the device every three months to avoid blocking the ventilation openings.

Figure 1-4 Flow Scheme of Heat Dissipation



LED Indicators

Table1-4

Indicator	Panel Identification	Status	Meaning
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 operational.
		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.
Extension module indicator	M1 / M2	Off	There is no extension module or the extension module is not correctly installed.
		Solid green	The extension module is correctly installed.
RPS status indicator	RPS	Off	The redundant power is not connected to a link.
		Solid green	The redundant power is connected and can supply power.
		Solid yellow	The redundant power is supplying power.
		Solid red	The redundant power is connected but cannot supply power.
1000Mbps SFP port indicator	21F-24F	Off	No link, or port was administratively shut down.
		Solid green	The 1000 M link that the port connects to is Up.
		Blinking green	Data at a rate of 1000 M are being transceived at the port.
		Solid yellow	The 100 M link that the port connects to is Up.
		Blinking yellow	Data at a rate of 100 M are being transceived at the port.

Indicator	Panel Identification	Status	Meaning
1000Mbps RJ-45 port indicator	1-24	Off	No link, or port was administratively shut down.
		Solid green	The 1000 M link that the port connects to is Up.
		Blinking green	Data at a rate of 1000 M are being transceived at the port.
		Solid yellow	The 100 or 10 M link that the port connects to is Up.
		Blinking yellow	Data at a rate of 100 or 10 M are being transceived at the port.

RG-S5750-48GT/4SFP-S

Technical Specifications

Table1-5

Model	RG-S5750-48GT/4SFP-S
Optical Module Type	■ Ethernet 100 MB: FE-SFP-LX-MM1310 FE-SFP-LH15-SM1310 FE-SFP-LX20-SM1310-BIDI FE-SFP-LX20-SM1550-BIDI FE-SFP-LH40-SM1310-BIDI FE-SFP-LH40-SM1550-BIDI ■ Ethernet 1000 MB: Mini-GBIC-SX Mini-GBIC-LX Mini-GBIC-LH40 GE-SFP-LX20-SM1310-BIDI GE-SFP-LX20-SM1550-BIDI GE-SFP-LH40-SM1310-BIDI GE-SFP-LH40-SM1550-BIDI Mini-GBIC-ZX50 Mini-GBIC-ZX80 Mini-GBIC-ZX100 ■ 1000Base-T: Mini-GBIC-GT Note The supported module type may change at any time. For the detailed change information, consult the Ruijie Networks. Note The Bi-Directional (BIDI) optical modules must be used in pairs. For details about

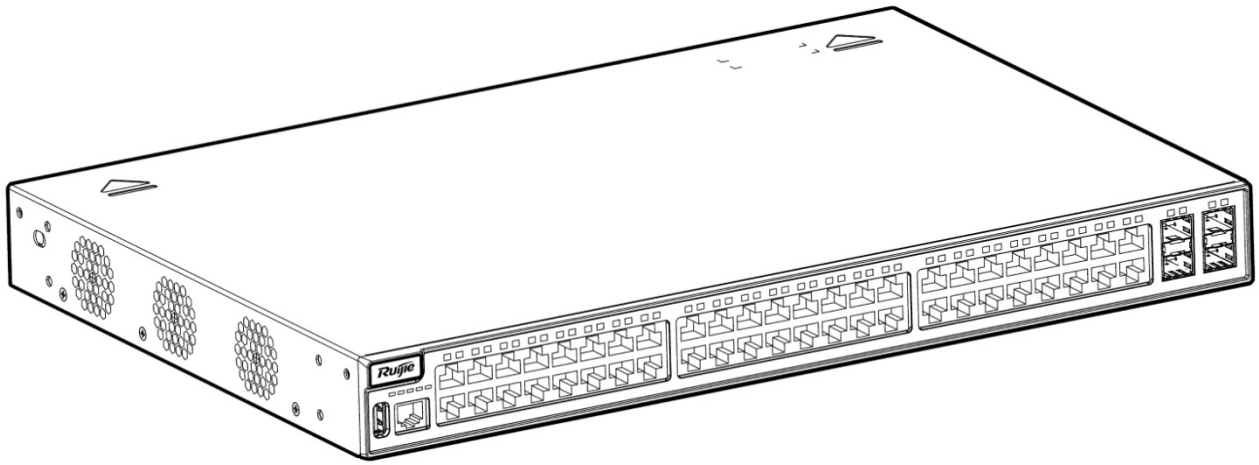
	the pairs of BIDI modules, see the Appendix B.
Extended Module Type	M5000E-02SFP/GT M5000E-01XS M5000E-02XS
SFP Port	100Base-X 1000Base-X
RPS Type	RG-RPS150
Power Supply	AC input: Rated voltage range: 100–240 V AC Maximum voltage range: 90–264 V AC Frequency: 50/60 Hz Rated current: 2 A HVDC input: Voltage range: 192–290 V DC Current range: 0.7–0.5 A
Max. Power Consumption	82 W (with extension modules); 66 W (without extension modules)
Temperature	Working temperature: 0–50ºC Storage temperature: -40–70ºC
Humidity	Working humidity: 10%–90% RH Storage humidity: 5%–90% RH
Fan	Support fan speed adjustment and the fault warning function
Temperature Warning	Support the temperature warning function
EMC	GB9254-2008
Security Compliance	GB4943-2011
Dimensions (W x D x H)	440 mm x 300 mm x 44 mm
Weight	5.2 kg (with extension modules); 4.2 kg (without extension modules)

Caution RG-S5750-48GT/4SFP-S 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

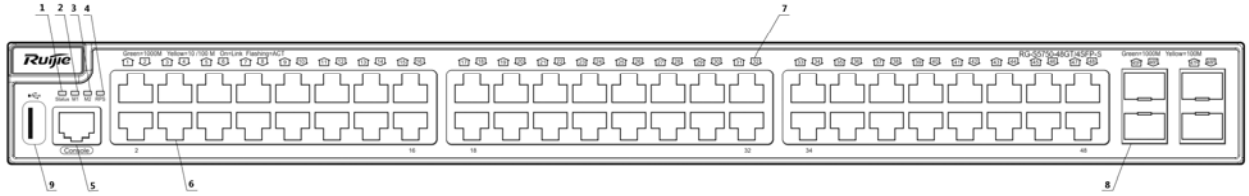
The front panel of the RG-S5750-48GT/4SFP-S Ethernet switch provides 48 10/100/1000Base-T Ethernet ports, four 1000M SFP fiber/copper combo ports, one Console port and one USB port. The back panel provides AC power input ports, RPS input ports and two extension module slots.

Figure 1-5 Appearance of the RG-S5750-48GT/4SFP-S



Front Panel

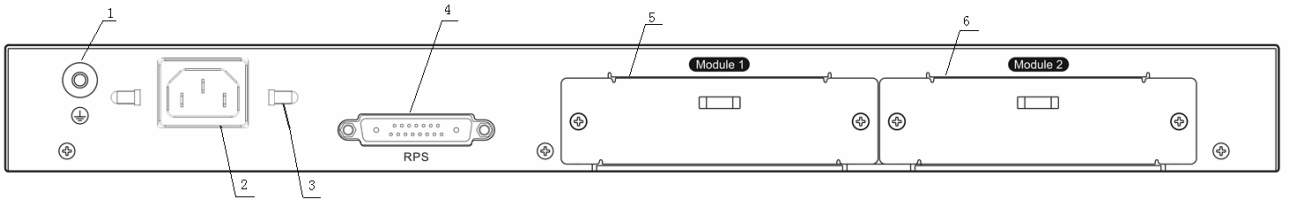
Figure 1-6 Schematic Diagram of the RG-S5750-48GT/4SFP-S Front Panel



Note:	1. Switch status indicator	6. 10/100/1000Base-T adaptive Ethernet port indicator
	2. Extension port 1 status indicator	
	3. Extension port 2 status indicator	7. Port status indicator
	4. RPS status indicator	8. 100/1000Base-X SFP port
	5. Console port	9. USB port

Back Panel

Figure 1-7 Schematic Diagram of the RG-S5750-48GT/4SFP-S Back Panel



Note:	1. Grounding pole	4. RPS input port
	2. 3-core AC power port	5. Slot for extension module 1
	3. Power defense shedding plug	6. Slot for extension module 2

Power Supply System

The RG-S5750-48GT/4SFP-S adopts the AC power input and redundant power input.

AC input:

- Rated voltage range: 100–240 V AC
- Maximum voltage range: 90–264 V AC
- Frequency: 50/60 Hz
- Rated current: 2 A
- Power cable: 10 A power cable

HVDC input:

- Voltage range: 192–290 V DC
- Current range: 0.7–0.5 A

RPS input:

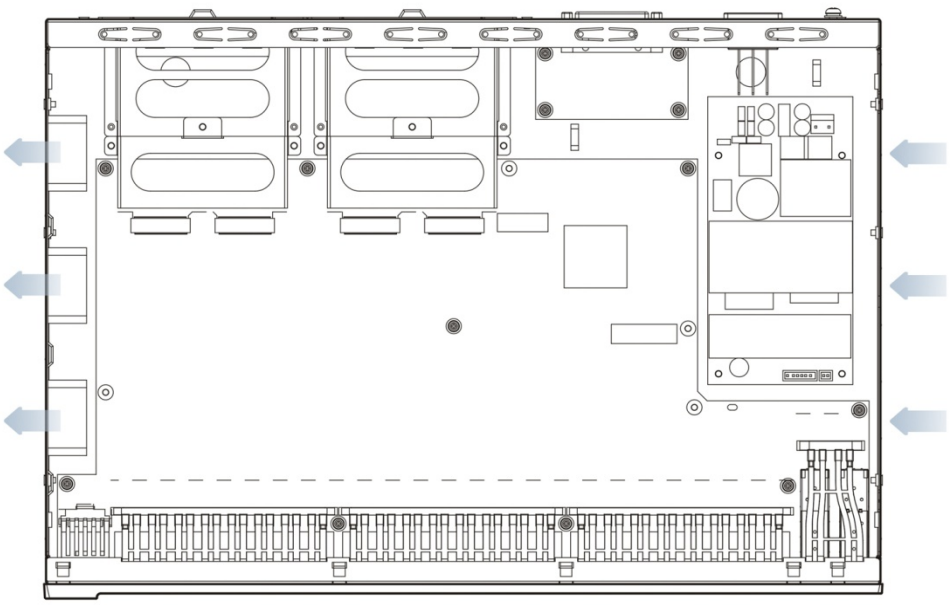
- The switch power can be supplied by the redundant power input or both the AC input and redundant power input.
- When both the AC input and the redundant power input are available, the switch power is supplied by the AC power input.
- When the AC input is unavailable, the switch power supply switches to the redundant power input seamlessly.

Caution At present, the redundant power supply interface can be used together with the RPS150 that are manufactured by Ruijie Networks. Unless otherwise stated, other power supply modules cannot be used for power input; otherwise, an abnormality may occur or damage the switch.

Cooling System

The RG-S5750-48GT/4SFP-S adopts left and right fans for heat dissipation purposes, thereby ensuring the device's functioning in the specified environment. Sufficient space (10 cm distance from both sides and the backplane of the cabinet) should be reserved around the cabinet to allow air circulation. Dust the device every three months to avoid blocking the ventilation openings.

Figure 1-8 Flow Scheme of Heat Dissipation



LED Indicators

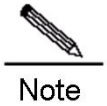
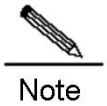
Table1-6

Indicator	Panel Identification	Status	Meaning
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 operational.
		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.
Extension module indicator	M1 / M2	Off	There is no extension module or the extension module is not correctly installed.
		Solid green	The extension module is correctly installed.
RPS status indicator	RPS	Off	The redundant power is not connected to a link.
		Solid green	The redundant power is connected and can supply power.
		Solid yellow	The redundant power is supplying power.
		Solid red	The redundant power is connected but cannot supply power.
1000Mbps SFP port indicator	45F-48F	Off	T No link, or port was administratively shut down.
		Solid green	The 1000 M link that the port connects to is Up.
		Blinking green	Data at a rate of 1000 M are being transceived at the port.
		Solid yellow	The 100 M link that the port connects to is Up.
		Blinking yellow	Data at a rate of 100 M are being transceived at the port.
1000Mbps RJ-45 port indicator	1-48	Off	No link, or port was administratively shut down.
		Solid green	The 1000 M link that the port connects to is Up.
		Blinking green	Data at a rate of 1000 M are being transceived at the port.
		Solid yellow	The 100 or 10 M link that the port connects to is Up.
		Blinking yellow	Data at a rate of 100 or 10 M are being transceived at the port.

RG-S5750-24SFP/8GT-S

Technical Specifications

Table1-7

Model	RG-S5750-24SFP/8GT-S
Optical Module Type	■ Ethernet 100 MB: FE-SFP-LX-MM1310 FE-SFP-LH15-SM1310 FE-SFP-LX20-SM1310-BIDI FE-SFP-LX20-SM1550-BIDI FE-SFP-LH40-SM1310-BIDI FE-SFP-LH40-SM1550-BIDI ■ Ethernet 1000 MB: Mini-GBIC-SX Mini-GBIC-LX Mini-GBIC-LH40 GE-SFP-LX20-SM1310-BIDI GE-SFP-LX20-SM1550-BIDI GE-SFP-LH40-SM1310-BIDI GE-SFP-LH40-SM1550-BIDI Mini-GBIC-ZX50 Mini-GBIC-ZX80 Mini-GBIC-ZX100 ■ 1000Base-T: Mini-GBIC-GT  Note The supported module type may change at any time. For the detailed change information, consult the Ruijie Networks.  Note The Bi-Directional (BIDI) optical modules must be used in pairs. For details about the pairs of BIDI modules, see the Appendix B.
Extended Module Type	M5000E-02SFP/GT M5000E-01XS M5000E-02XS
SFP Port	100Base-X 1000Base-X
RPS Type	Dual power supplies
Power Supply	AC input: Rated voltage range: 100–240 V AC Maximum voltage range: 90–264 V AC Frequency: 50/60 Hz Rated current: 2 A HVDC input: Voltage range: 192–290 V DC

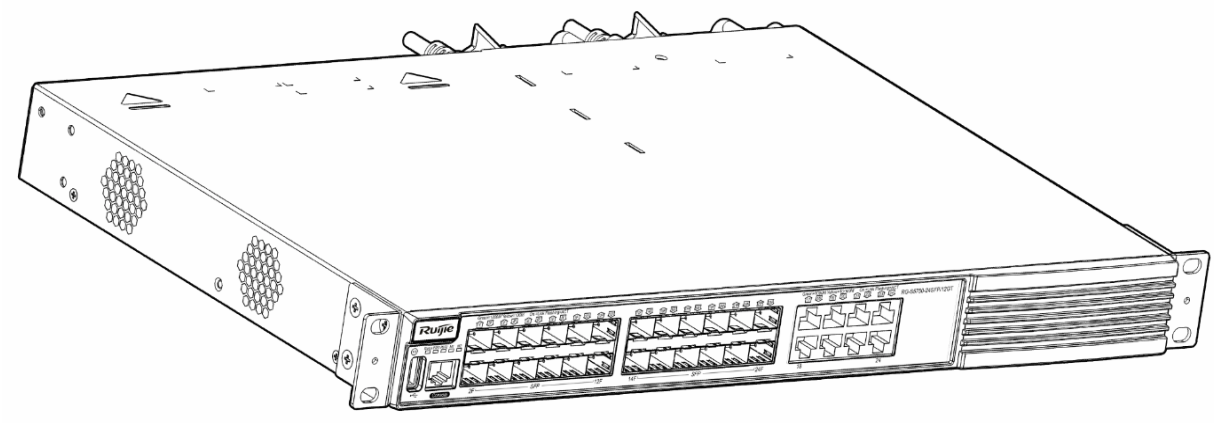
	Current range: 0.5–0.24 A
Max. Power Consumption	Dual power supplies: 50 W (with extension modules); 34 W (without extension modules) Single power supply: 48 W (with extension modules); 33 W (without extension modules)
Temperature	Working temperature: 0–50ºC Storage temperature: -40–70ºC
Humidity	Working humidity: 10%–90% RH Storage humidity: 5%–90% RH
Fan	Support fan speed adjustment and the fault warning function
Temperature Warning	Support the temperature warning function
EMC	GB9254-2008
Security Compliance	GB4943-2011
Dimensions (W x D x H)	440 mm x 300 mm x 44 mm
Weight	5.2 kg (with extension modules and power modules); 3.7 kg (without extension modules or power modules)

Caution RG-S5750-24SFP/8GT-S 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

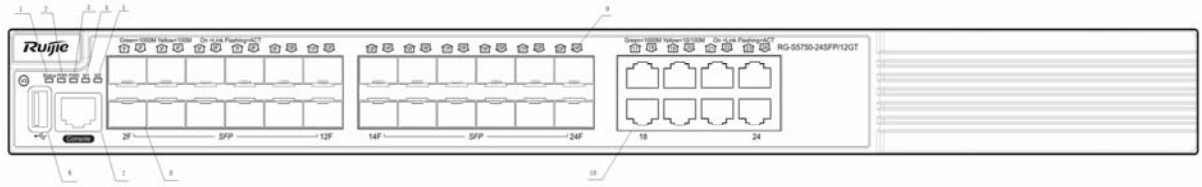
The front panel of the RG-S5750-24SFP/8GT-S Ethernet switch provides 24 1000Base-X SFP ports, eight 1000M copper RJ-45 combo ports, one Console port, one USB port, two power module slots and two extension slots.

Figure 1-9 Appearance of the RG-S5750-24SFP/8GT-S



Front Panel

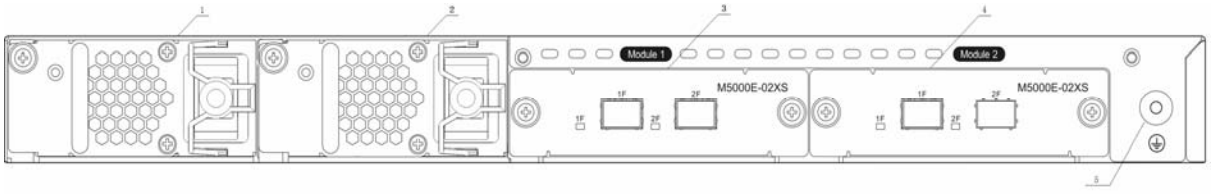
Figure 1-10 Schematic Diagram of the RG-S5750-24SFP/8GT-S Front Panel



Note:	1. Switch status indicator	6. USB port
	2. Power supply 1 status indicator	7. Console port
	3. Power supply 2 status indicator	8. 100/1000Base-X SFP port
	4. Extension port 1 status indicator	9. Port status indicator
	5. Extension port 2 status indicator	10. 10/100/1000Base-T adaptive Ethernet port

Back Panel

Figure 1-11 Schematic Diagram of the RG-S5750-24SFP/8GT-S Back Panel



Note:	1. Slot for the power module 1	4. Slot for the extension module 2
	2. Slot for the power module 2	5. Grounding pole
	3. Slot for the extension module 1	

Power Supply System

The RG-S5750-24SFP/8GT-S supports two power supplies. The supported power supply module is RG-M5000E-AC60. Dual power supplies mean that the switch can use either or both of the two power supplies concurrently. When the two power supply modules are used concurrently, the switch is powered by the equalizing current status.

Table1-8 Technical Specifications of the RG-M5000E-AC60 Power Module

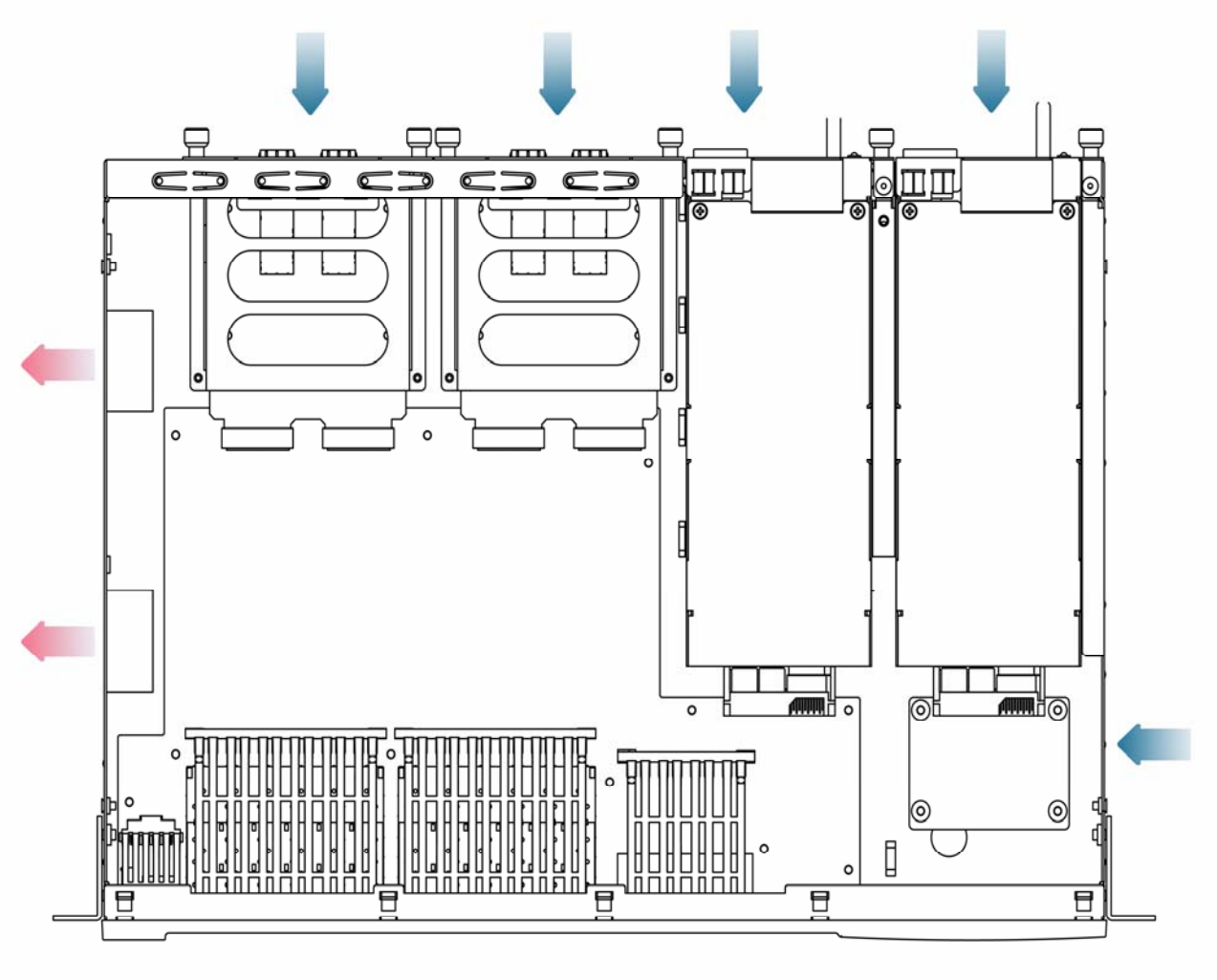
Model	RG-M5000E-AC60 (AC Input)	RG-M5000E-AC60 (HVDC Input)

Applicable Models	RG-S5750-24SFP/8GT-S	RG-S5750-24SFP/8GT-S
Rated Input Voltage Range	100–240 VAC, 50/60 Hz	240 VDC
Maximum Input Voltage Range	90–264 VAC, 50/60 Hz	192–290 VDC
Power	60 W	
Power Supply Hot-Plugging	Supported	
Power Supply Redundancy	1+1 redundancy	
Over-Voltage Protection	13.4–16 V	
Over-Current Protection	6–12 A	
Over-Heat Protection	Not supported	
Flow Equalization	Not supported	
Mixed Power Supply	Not supported	
Power Cable	10 A power cable	
Dimensions	203.3 mm x 81 mm x 40 mm (excluding connecting finger and handle) 236.9 mm x 81 mm x 40 mm (including connecting finger and handle)	
Weight	0.6 kg	

Cooling System

The RG-S5750-24SFP/8GT-S is designed with left and right fans, and heat dissipation of power supply and extension modules, thereby ensuring the device's functioning in the specified environment. Sufficient space (10 cm distance from both sides and the backplane of the cabinet) should be reserved to allow air circulation. Dust the device every three months to avoid blocking the ventilation openings.

Figure 1-12 Flow Scheme of Heat Dissipation



LED Indicators

Table1-9

Indicator	Panel Identification	Status	Meaning
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 operational.
		Solid yellow	It indicates a yellow warning on the switch temperature. Check in time the working environment of the switch.
		Solid red	Indicates a fault on the switch. For details, refer to the section of **Troubleshooting Common Faults**.
Power supply status indicator	PWR1/PWR2	Off	The power supply is off.
		Solid red	The power supply is on but is not connected with the AC power cable or the power supply fails.
		Solid green	The power supply is operational.

Indicator	Panel Identification	Status	Meaning
Extension module indicator	M1 / M2	Off	There is no extension module or the extension module is not correctly installed.
		Solid green	The extension module is correctly installed.
1000Mbps SFP port indicator	1F-24F	Off	No link, or port was administratively shut down.
		Solid green	The port is connected at 1000Mbps.
		Blinking green	The port is receiving or transmitting data at 1000Mbps.
		Solid yellow	The port is connected at 100Mbps.
		Blinking yellow	The port is receiving or transmitting data at 100Mbps.
1000Mbps RJ-45 port indicator	17-24	Off	No link, or port was administratively shut down.
		Solid green	The port is connected at 1000Mbps.
		Blinking green	The port is receiving or transmitting data at 1000Mbps.
		Solid yellow	The port is connected at 10/100Mbps.
		Blinking yellow	The port is receiving or transmitting data at 10/100Mbps.

Modules

The RG-S5750-S series switches support the following modules: M5000E-02SFP/GT, M5000E-01XS and M5000E-02XS.

- The M5000E-02SFP/GT module provides two 1000M fiber/copper combo ports. The 1000M copper port is the 10/100/1000M adaptive RJ45 port supporting the cat-5 UTP and STP; while the 1000M fiber port supports only the 100/1000Base-X mode, and it can be used together with multiple types of optical transceiver modules of Ruijie Networks for different transmission distances. When you use this module for the RG-S5750-S series switches, the 1000M fiber ports support the SFP Bi-Directional (BIDI) module. For information about the supported SFP BIDI modules and relevant usage, see the Appendix B.
- M5000E-01XS provides a 10G SFP Plus port module and support the 10GBASE-SR/LR/LRM model. It can be used with various optical transceiver modules of Ruijie Networks for different transmission distances. This module supports one-meter or three-meter SFP Plus passive copper cable on the RG-S5750-S series switches. It can be used together with XG-SFP-CU1M and XG-SFP-CU3M copper cable transceiver modules of Ruijie Networks.
- The M5000E-02XS provides two 10G SFP Plus ports and supports the 10GBASE-SR/LR/LRM mode. It can be used together with multiple types of optical transceiver modules manufactured by Ruijie Networks to adapt different transmission distances. This module supports one-meter or three-meter SFP Plus passive copper cable on the RG-S5750-S series switches. It can be used together with XG-SFP-CU1M and XG-SFP-CU3M copper cable transceiver modules of Ruijie Networks.

Table1-10

Module	Description	External port
M5000E-02SFP/GT	2-port 1000M fiber/copper combo module	2 10/100/1000Base-T adaptive Ethernet ports. 2 Combo 1000Base-X SFP ports.

M5000E-01XS	1-port 10G interface module	1 SFP Plus port
M5000E-02XS	2-port 10G interface module	2 SFP Plus ports

Note The 1000Base-X SFP port and the corresponding 10/100/1000Base-T adaptive Ethernet port form a fiber/copper combo port. That is, only one port in the fiber/copper combo port is available at a particular time.

Note For the detailed description about those two modules, see *Switch Extension Module Manual*.

Chapter 2 Preparation before Installation

Safety Suggestions

To avoid personal injury and equipment damage, please carefully read the safety suggestions before you install the RG-S5750-S series.

Caution The following safety suggestions may not cover all possible dangers.

System Installation

- Keep the chassis clean and free from dust.
- Do not place the equipment in a passage.
- 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

- Do not frequently move the device.
- While moving the device, keep its balance and avoid your legs, feet and back from being hurt.
- Before moving the device, turn off all power supplies and dismantle all power modules.

Electricity

- 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.
- Do no maintain the switch that is powered-on alone.
- Make sure that the power is turned off when necessary.
- Do not place the equipment in a damp place. Do not let any liquid enter the chassis.

Caution Any non-standard and impropriate electric operations may cause an accident such as a fire or electrical shock, thus causing severe even fatal damage to human bodies and equipment.

Caution Direct or indirect touch through a wet object on high-voltage and commercial electricity may bring a fatal danger.

Static Discharge Damage Prevention

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

- Connect the device's circuit to the ground.
- Clear up the dust.
- Maintain the proper humidity.

Laser

Among the modules supported by the RG-S5750-S series, many are Class I laser products. Therefore, pay attention to the following when using 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.

Caution Do not approach or stare into any optical port, as this may cause permanent damage to your eyes.

Installation Site Requirements

The RG-S5750-S series must be used indoors. To ensure its functioning and prolong its service life, the installation site must meet the following requirements.

Ventilation Requirements

RG-S5750-S should be placed at least 10cm away from surrounding walls to effective ventilation and heat dissipation. Cables should be bunched or put on the cable frame after being connected in order to prevent blocking the air intake. Dust the device every three months to avoid blocking the ventilation openings.

Temperature and Humidity Requirements

The temperature and humidity in the room must be stable to ensure the device's proper functioning and prolong its service life.

Continuous improper temperature and humidity will cause damage to the device.

High relative humidity will reduce the insulation of insulation materials and cause electric leakage. Sometimes it may lead to changes in the mechanical characters of materials and rust metal components.

Low relative humidity will dry the insulation sheets and generate static electricity, which will damage the electric circuits of the device.

High temperature will large affect the device's reliability, shorten its service life and accelerate its aging.

Table 2-1 Temperature and humidity requirements of the RG-S5750-S series

Temperature	Relative Humidity
0–50ºC	10%–90%

Caution The working temperature and humidity are measured 1.5 m above the ground and 0.4 m away from the front plat and when the chassis's front and rear protective plates are removed.

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^3)
Dust particles (diameter ≥0.5 μ m)	≤3.5×10^6
Dust particles (diameter ≥5 μ m)	≤3×10^4

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_2, H_2S, NO_2 and Cl_2), whose requirements are listed in the following table.

Table 2-3

Gas	Average (mg/m^3)	Maximum (mg/m^3)
SO_2	0.3	1.0
H_2S	0.1	0.5
NO_2	0.5	1.0
Cl_2	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.

EMI

The switch is vulnerable to external interface caused by capacity coupling, inductance coupling, electromagnetic wave radiation, common impedance (including grounding system) coupling and conducting wires (including power cords, signal and output wires). Therefore, the following points should be noted:

- The AC power supplying system is the TN system. The single-phase three-wire socket with protecting grounding must be used as the socket for the power supply to enable the device's upper filter circuit to effective filter the power interface.
- The switch should be far from high-power radio transmitting stations, radar stations and high-frequency and large-current devices.
- Electromagnetic shielding methods should be applied when necessary, such as using the shielded cable as the interface cable.
- Cables must be connected to interfaces inside the room to prevent damage to the device's signal ports caused by over-voltage and over-current generated by thunder and lightning.

System Grounding Requirements

A good grounding system is the basis for the stable and reliable operation of the RG-S5750-S series, preventing lightning stroke and resisting interference. Please carefully check the grounding conditions on the installation site according to the grounding requirements, and perform grounding operations properly as required.


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

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.


Caution The building must provide protective grounding connection to ensure that the device is connected to the protection location.


Caution The installation and maintenance personnel must check whether the A.C. socket is well connected to the protection location of the building, if not, they should use a protective grounding wire to connect the grounding end of the A.C. socket to the building's protection location.


Caution The power supply socket must be installed in a place that is near to the device and where users can operate the device easily.

Caution Before the installation of the device, make sure that ground connection is connected at first and disconnected finally.

Caution The sectional area of the protective grounding wire should be at least 0.75 mm^2 (18 AWG)

Caution Use the 3-core power supply line. The sectional area of each pin should be at least 0.75 mm^2 or 18 AWG.

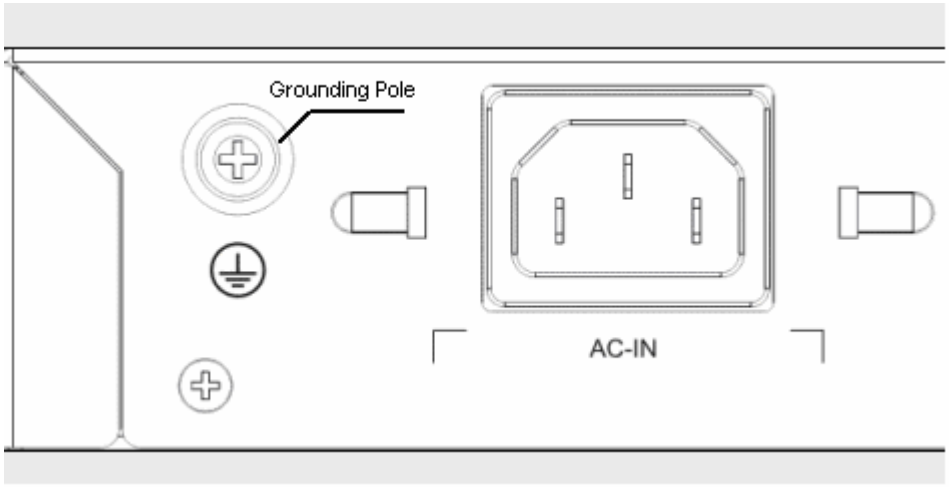
Lightning Grounding

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, but unnecessary for equipment.

EMC Grounding

The grounding required for EMC design includes shielding grounding, filter grounding, noise and interference suppression, and level reference. All the above constitute the comprehensive grounding requirements. The grounding resistance should be less than 1Ω. The RG-S5750-S backplane has one grounding pole.

Figure 2-1 Grounding of the RG-S5750-S



Lightning Resistance

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

Caution The lightning preventing wires are not provided and should be purchased by users as required. For the usage of lightning preventing wires, refer to their manuals.

EMI Consideration

All kinds of interference, from inside or outside of the device or application system, create impacts on the device by transmission of capacity coupling, inductance coupling and electromagnetic waves.

Electromagnetic interference can be divided into two categories by transmission types, namely i.e. radiated interference and conducted interference.

Power, normally RF power, transmitted from a device through space to a sensor is called radiated interference. The origin of the interference source can either be part of or a unit separated electrically from the interfered system. Conducted interference is transmitted through magnetic wires or signal cables from the source origin to sensors. Generally, conducted interference affects the power supply of a device and can be controlled by a wave filter. Given that radiated interference can interrupt any signal paths of the device, it is difficult to shield the device from such interference.

- The power supplying system should be effectively protected by an electricity shield.
- Grounding devices of power supply power supplying equipment and anti-lightening grounding devices should be used in the working area of switch and should be deployed far away from switch.
- The switch should be placed far away from high-power radio transmitting stations, radar stations and high-frequency and large-current devices.
- Electrostatic shielding methods should be applied.

Precautions 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 device should be connected to the Rx end of the peer device, and the Rx end of this device to the Tx end of the peer device.

Installation Tools

Table 2-4 List of Installation Tools

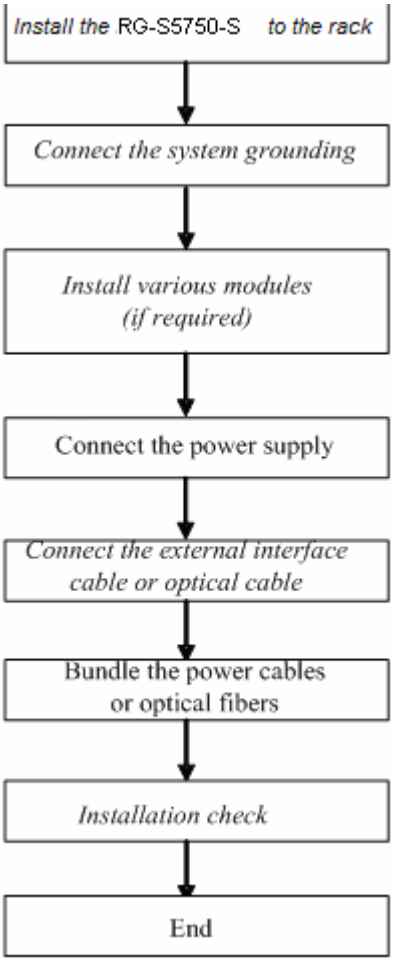
Common Tools	Cross screwdriver, straight screwdriver, related electric cables and optical cables, bolts, diagonal pliers, straps
Special Tools	Anti-static tools
Meters	Multimeter

Note The RG-S5750-S series are not provided with a tool kit. Please prepare tools on your own.

Chapter 3 Product Installation

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

Installation Procedure



Pre-installation Tasks

Ensure the following points before installation:

- 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 cables are already laid out

Installing the RG-S5750-S Series

Precautions

Following matters must be noted before installation:

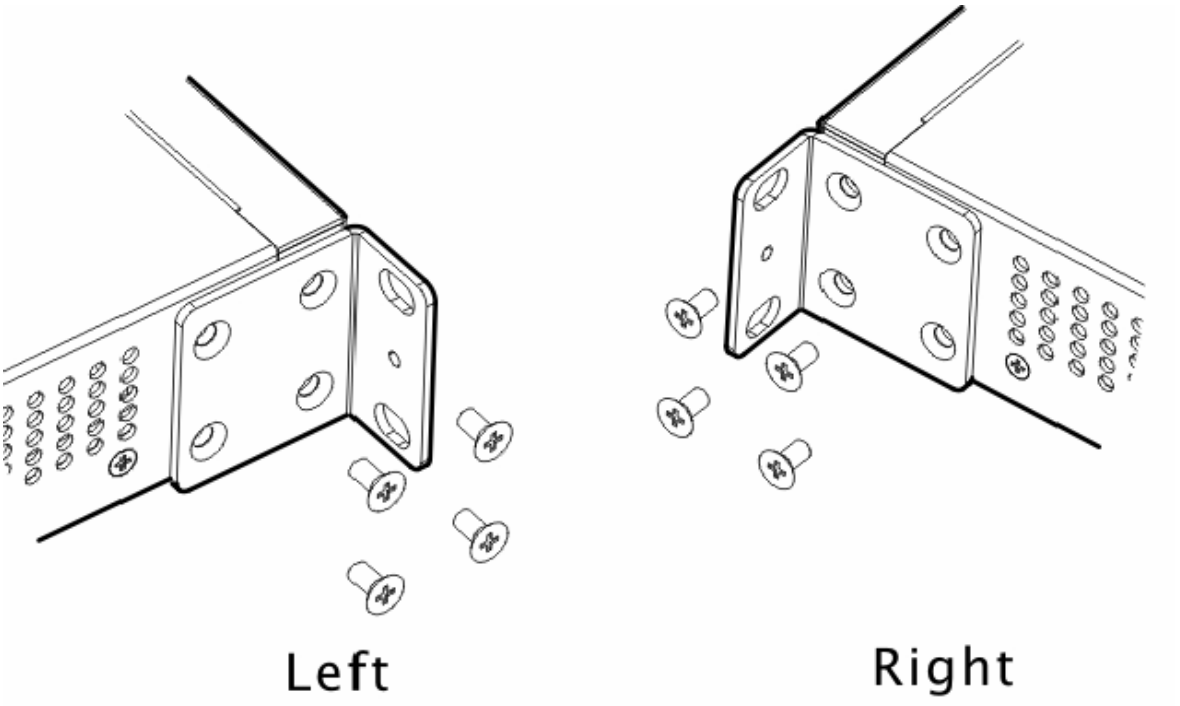
- Connect the power cables of different colors to the corresponding grounding posts.
- Ensure that the connected power cables have sound contact.
- Do not place heavy items on the switch.
- Reserve a spacing of at least 10 cm around the chassis for good ventilation. Do not stack the devices.
- The switch should be located far away 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-S5750-S series switches are designed with the EIA standard dimensions and can be installed in 19-inch rack. The installation is as follows:

Step 1: Attach the mounting brackets to the switch with the supplied screws, as shown in Figure 3-1.

Figure 3-1 Attaching the Mounting Bracket to the Switch



Step 2:

Align the mounting holes in the mounting bracket with the mounting holes in the rack, as shown in Figure 3-2.

Use the supplied M6 screws and cage nuts to securely attach the mounting brackets to the rack, as shown in Figure 3-3.

Figure 3-2

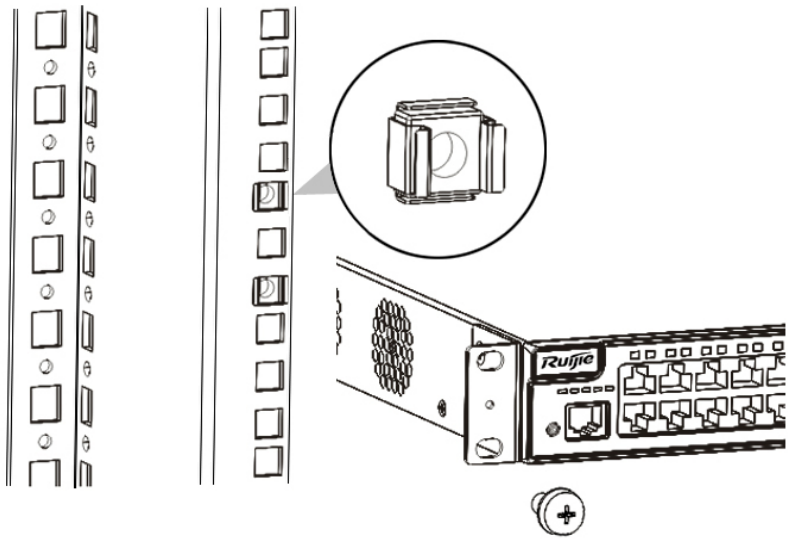
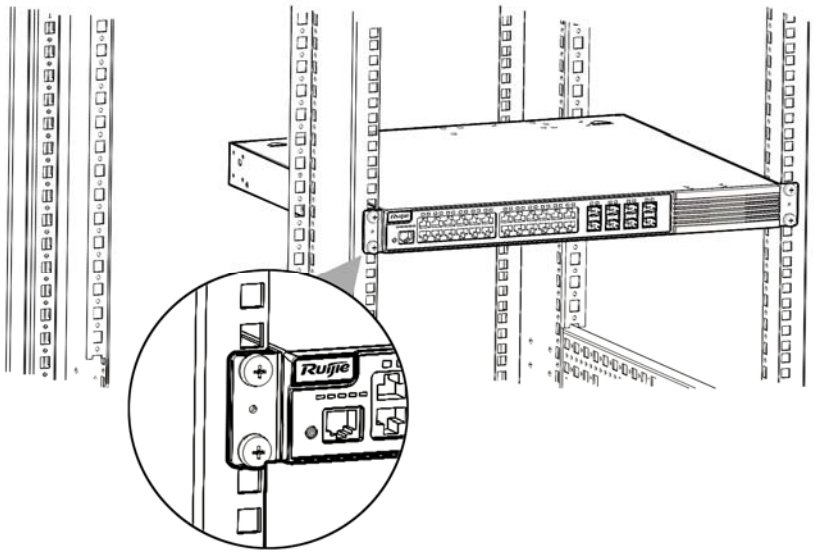


Figure 3-3

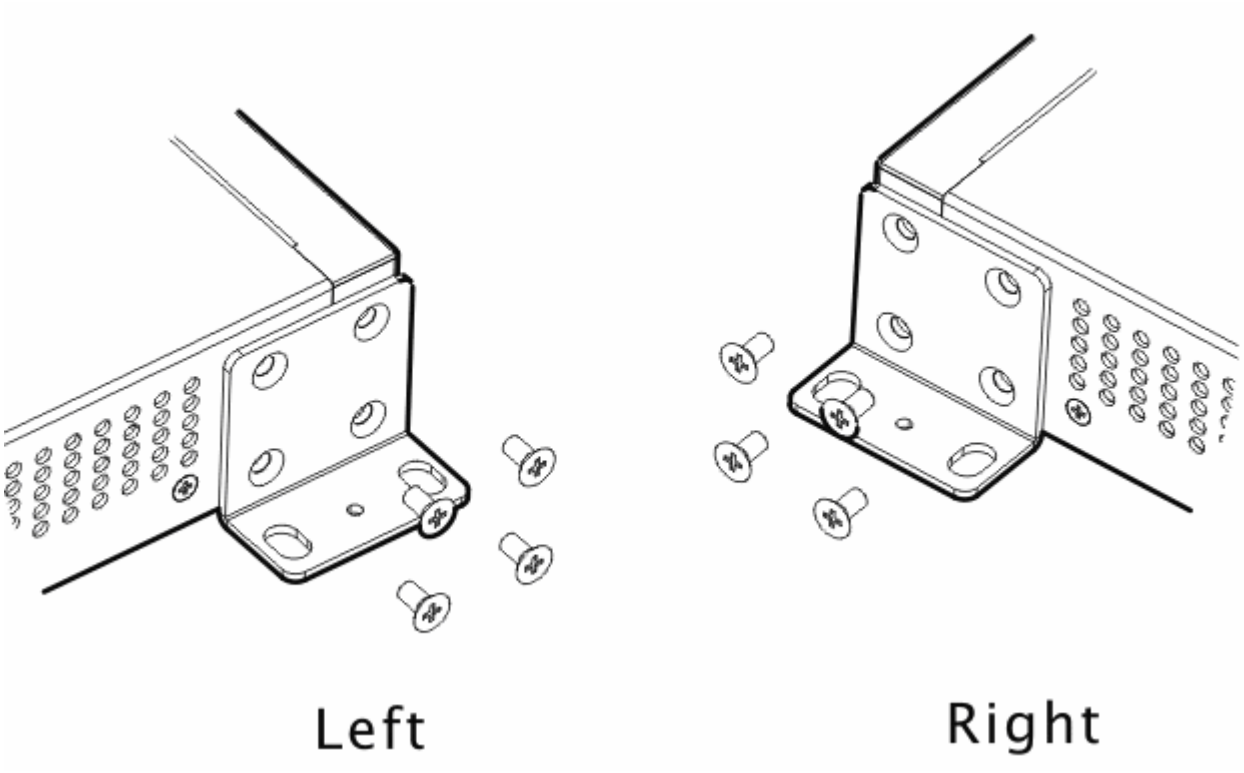


Mounting the Switch on the Wall

The RG-S5750-S series switches can be mounted on a wall. The installation is as follows:

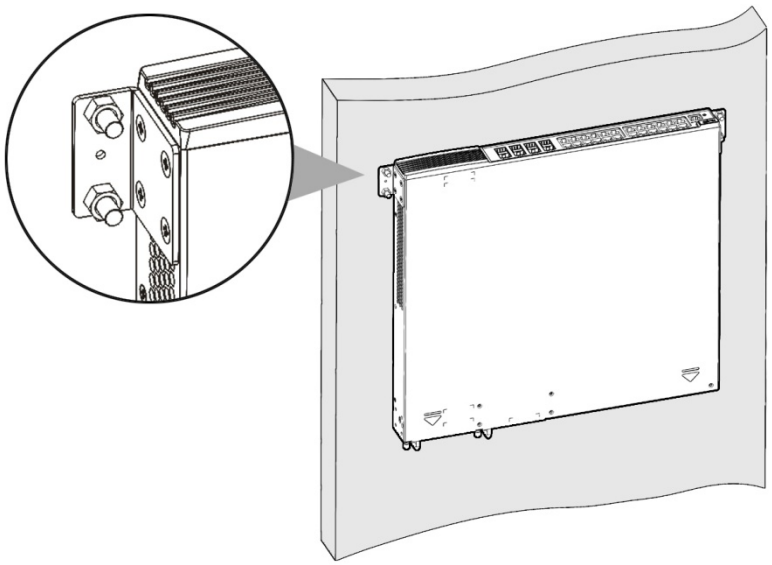
Step 1: Attach the mounting brackets to the switch with the supplied screws, as shown in Figure 3-4.

Figure 3-4 Attaching the Mounting Brackets to the Switch for Wall-Mounting



Step 2: Use the expansion screws to securely attach the mounting brackets on the wall, as shown in Figure 3-5.

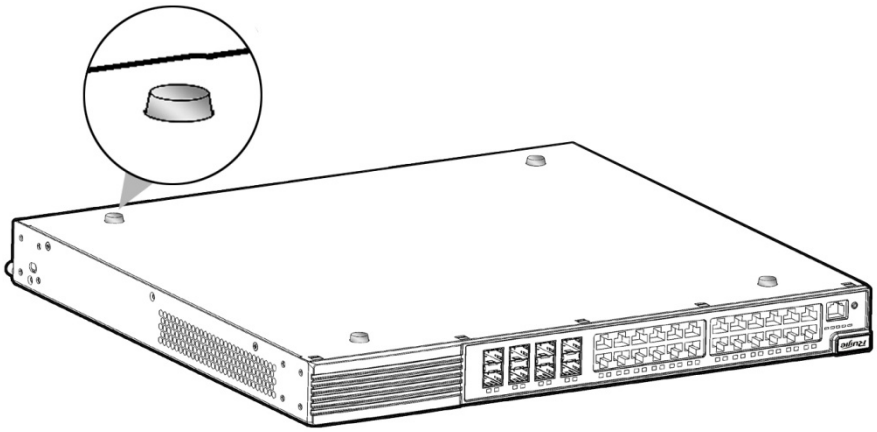
Figure 3-5 Attaching the Switch on the Wall



Mounting the Switch on a Table

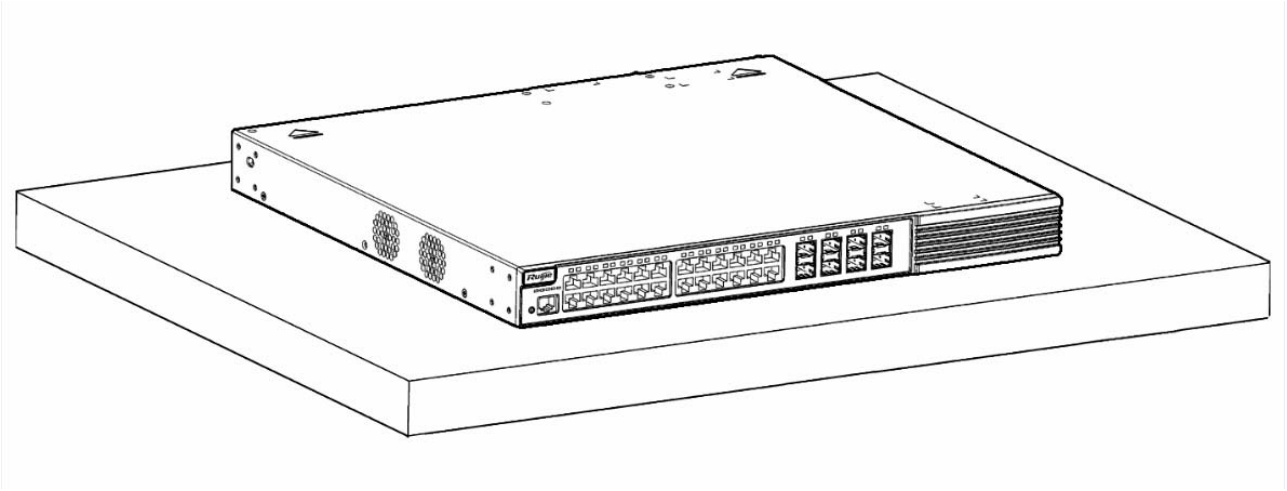
Step 1: Attach the four rubber feet to the recessed areas on the bottom of the switch, as shown in Figure 3-6.

Figure 3-6 Attaching the Rubber Feet to the Recessed Areas



Step 2: Place the switch on the table, as shown in Figure 3-7.

Figure 3-7 Mounting the Switch on the Table



Caution The device must be installed and operated in the place that can restrict its movement.

Checking after Installation

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

- 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).

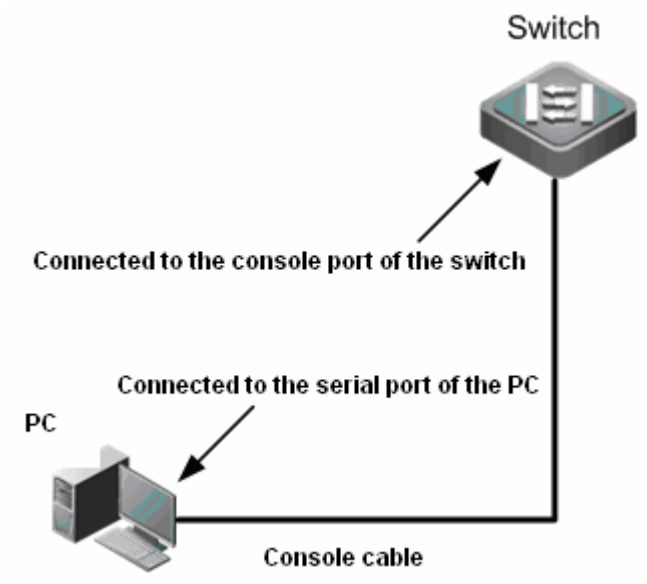
Chapter 4 System Commissioning

Establishing the Configuration Environment

Establishing the Configuration Environment

Use the console cable to connect the PC to the console port of the switch.

Figure 4-1 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" – "Super Terminal".

Choose Cancel to display the following page.

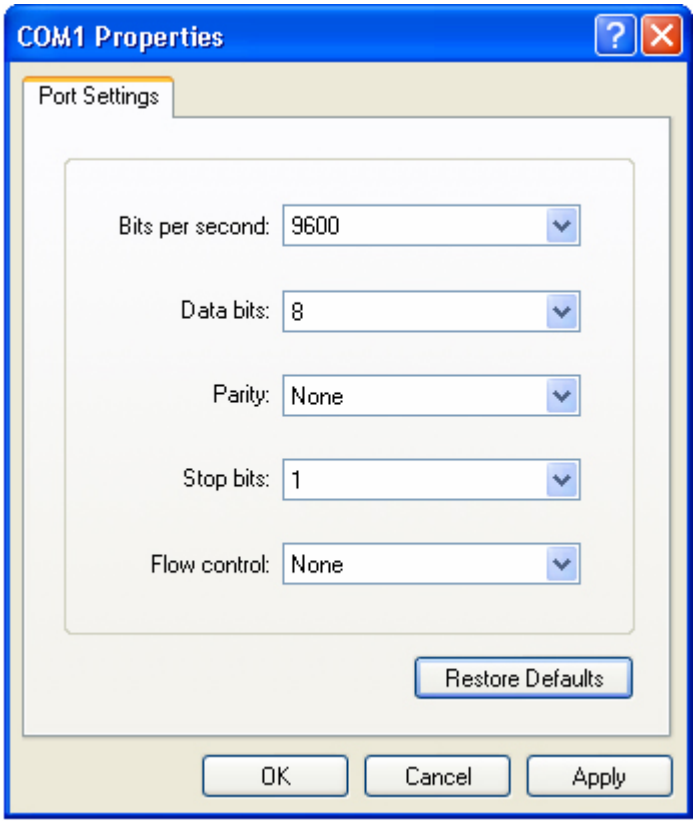
Figure 4-2

Enter the name of the new connection and click **OK** to display the following page. Choose the series port used currently in the column [use when connecting].

Figure 4-3

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

Figure 4-4



After setting the parameters, click **OK** to enter the super terminal page.

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.

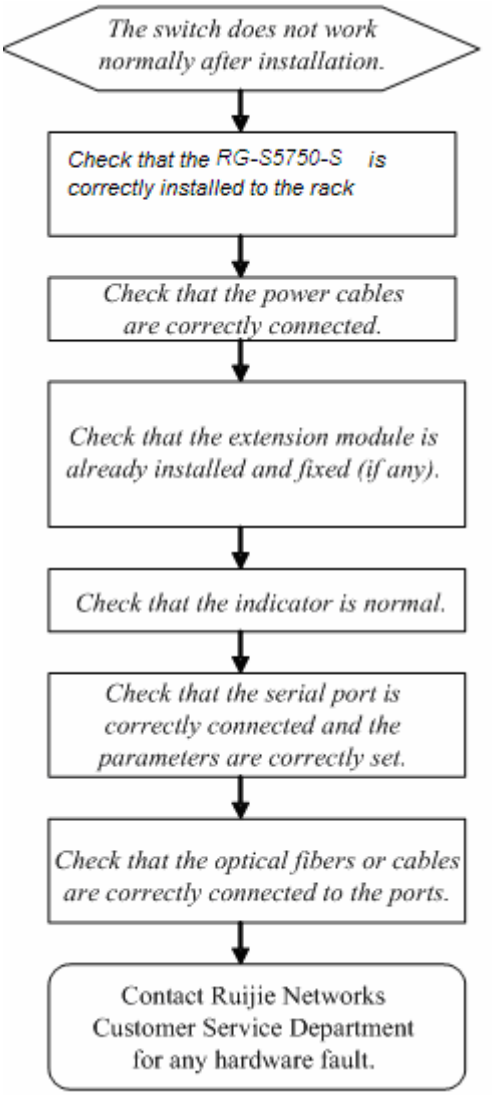
Checking after Power-on (Recommended)

- 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.

Chapter 5 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.

Symptom	Possible Causes	Solution
The status indicator is red.	Fan alarm Temperature alarm Power alarm	1. Fan alarm: Check whether the fan is blocked or damaged. 2. Temperature alarm: 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. 3. Power alarm: The power module problem may be: 1) The power module is installed but the power cord is not inserted. Please power on the module or remove the unused power module. 2) The power is faulty. Please replace a power module.
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.
The extension module is not identified by the host.	The module is not properly installed or is in loose contact. The module is installed after the host is powered on.	Power off, install the module, and then power on the host. Power off, remove and install the module again.
The RPS power indicator is not on.	The RPS power module in use is not of the specified type. The RPS power supply module is faulty.	Replace the RPR power supply module with one specified by Ruijie Networks. Replace the RPS power supply. Check whether the RPS power supply

Symptom	Possible Causes	Solution
	The RPS power supply cable is in loose contact.	cable is in loose contact.

Appendix A: Connectors and Connection Media

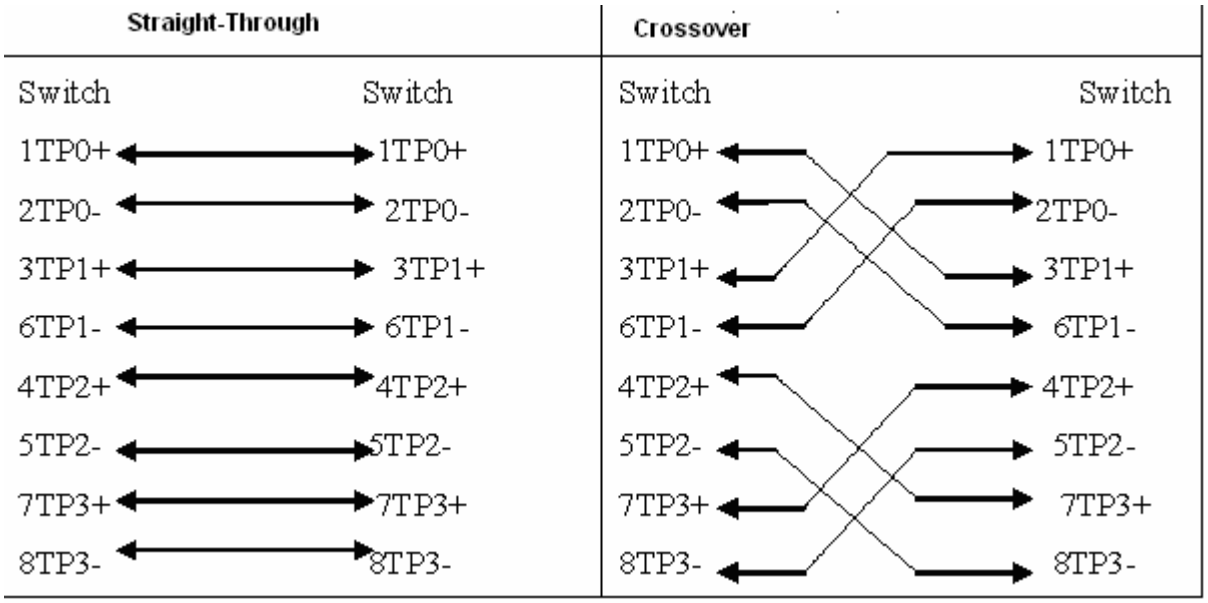
1000BASE-T/100BASE-TX/10BASE-T Ports

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. Figure A-1 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



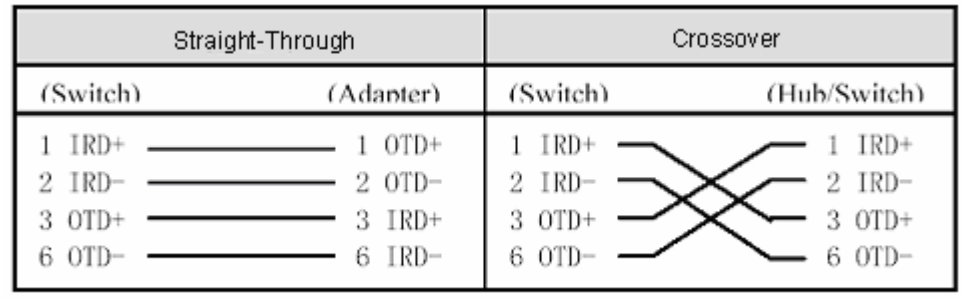
In addition to the above cables, the 100BASE-TX/10BASE-T can also use 100-ohm Category-3, 4, 5 cables for 10 Mbps, and 100-ohm Category-5 cables for 100 Mbps, both of which can be up to 100 m. 0 shows the pinouts of the 100BASE-TX/10BASE-T.

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

Figure A-3 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



Optical Fiber Connection

For the optical fiber ports, select single-mode or multiple-mode optical fibers for connection according to the fiber module connected. The connection schematic diagram is shown in Figure A-4:

Figure A-4 Schematic Diagram for optical fiber connection

Appendix B Mini-GBIC Modules

Ruijie Networks provides appropriate 1000M SFP modules (Mini-GBIC) modules according to the types of interfaces of the switch modules. You can select the SFP module to suit your specific needs. The following models and technical specifications of some 1000 M SFP modules are listed for your reference.

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

Mini-GBIC (SFP)	Wavelength (nm)	Cable Type	Interface Type	Core Size (μm)	Cabling Distance	Transmit Sensitivity (dbm)		Receive Sensitivity (dbm)		DDM (Yes/No)
						Min	Max	Min	Max	
FE-SFP-LX-MM1310	1310	MMF[1]	LC	62.5/125	2km	-22	-14	-30	-14	Yes
FE-SFP-LH15-SM1310	1310	SMF[2]	LC	9/125	15km	-15	-8	-28	-8	Yes
FE-SFP-LX20-SM1310-BIDI	1310TX/1550RX	SMF	LC	9/125	20km	-15	-7	-28	-8	Yes
FE-SFP-LX20-SM1550-BIDI	1550TX/1310RX	SMF	LC	9/125	20km	-15	-7	-28	-8	Yes
FE-SFP-LH40-SM1310-BIDI	1310TX/1550RX	SMF	LC	9/125	40km	-7	-2	-32	-8	Yes
FE-SFP-LH40-SM1550-BIDI	1550TX/1310RX	SMF	LC	9/125	40km	-7	-2	-32	-8	Yes
Mini-GBIC-SX	850	MMF	LC	62.5/125	275m	-9.5	-3	-17	0	No
				50/125	550m					
Mini-GBIC-LX	1310	SMF	LC	9/125	10km	-9.5	-3	-20	-3	No
Mini-GBIC-LH40	1310	SMF	LC	9/125	40km	-2	3	-22	-3	Yes
Mini-GBIC-ZX50	1550	SMF	LC	9/125	50km	-5	0	-22	-3	Yes
Mini-GBIC-ZX80					80km	0	4.7	-22	-3	
Mini-GBIC-ZX100					100km	0	5	-30	-9	

GE-eSFP-SX-MM850	850	MMF	LC	62.5/125	275m	-9.5	-3	-17	0	Yes
				50/125	550m					
GE-eSFP-LX-SM1310	1310	SMF	LC	9/125	10km	-9.5	-3	-20	-3	Yes
GE-SFP-LX20-SM1310-BIDI	1310TX/1550RX	SMF	LC	9/125	20km	-9	-3	-20	-3	Yes
GE-SFP-LX20-SM1550-BIDI	1550TX/1310RX	SMF	LC	9/125	20km	-9	-3	-20	-3	Yes
GE-SFP-LH40-SM1310-BIDI	1310TX/1550RX	SMF	LC	9/125	40km	-5	0	-24	-1	Yes
GE-SFP-LH40-SM1550-BIDI	1550TX/1310RX	SMF	LC	9/125	40km	-5	0	-24	-1	Yes
Mini-GBIC-GT	N/A	UTP/STP	RJ45 port	Category-5 or Supper Category-5 UTP or STP	100m	N/A				No

[1] MMF=Multimode fiber

[2] SMF=Single mode fiber

Caution

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 in modules including: FE-SFP-LX20-SM1310-BIDI, FE-SFP-LX20-SM1550-BIDI, FE-SFP-LH40-SM1310-BIDI, FE-SFP-LH40-SM1550-BIDI, GE-SFP-LH40-SM1310-BIDI, GE-SFP-LH40-SM1550-BIDI, Mini-GBIC-LH40, Mini-GBIC-ZX50, Mini-GBIC-ZX80 and Mini-GBIC-ZX100.

Caution Do not stare into the light source, as this may cause permanent damage to your eyes.

Caution Make sure that the optical module is covered with the dust-proof cap when the module is not connected with the fiber cables.

Pairs of SFP BIDI Modules

Rate/Distance	Matching Models
100M/20 km	FE-SFP-LX20-SM1310-BIDI FE-SFP-LX20-SM1550-BIDI
100M/40 km	FE-SFP-LH40-SM1310-BIDI FE-SFP-LH40-SM1550-BIDI
1000M/20 km	GE-SFP-LX20-SM1310-BIDI GE-SFP-LX20-SM1550-BIDI
1000M/40 km	GE-SFP-LH40-SM1310-BIDI GE-SFP-LH40-SM1550-BIDI

Note The BIDI modules must be used in pairs. (e.g., FE-SFP-LX20-SM1310-BIDI and FE-SFP-LX20-SM1550-BIDI)

Appendix C 10 G SFP Plus Modules

Ruijie Networks provides appropriate 10G SFP Plus modules according to the types of interfaces of the switch modules. You can select the SFP Plus module to suit your specific needs. The following models and technical specifications of some 10G SFP Plus modules are listed for your reference.

Models and Technical Specifications of the 10G SFP Plus Optical Modules

Model	Wavelength (nm)	Optical Fiber Type	Core Size (um)	Modular Bandwidth (MHz/km)	Maximum Cabling Distance	Optical Intensity (dbm)		Receive Sensitivity (dbm)	
						MIN	MAX	MIN	MAX
XG-SFP-SR-MM850	850	multi-mode optical fiber (LC connector)	62.5	200 160	33m 26m	-5	-1	-7.5	0.5
			50	2000 500 400	300m 82m 66m				
XG-SFP-LR-SM1310	1310	single-mode optical fiber (LC connector)	9	N/A	10km	-8.2	0.5	-10.3	0.5
XG-SFP-ER-SM1550	1550	single-mode optical fiber (LC connector)	9	N/A	40km	-4.7	4	-11.3	-1

For the XG-SFP-ER-SM1550, do not use short distance optical fiber for the avoidance of the overload of the optical receiver. If the optical power of the module's receiving end is larger than or equal to -1dBm, an appropriate attenuator should be added on the link to make sure the optical power is less than -1dBm.

Models and Technical Specifications of 10G SFP Plus Copper Cable Modules

Model	Copper Cable Type	Connector Type	Copper Cable Length (m)	Wire Diameter (AWG)	Data Rate (Gb/s)	Support DDM (Yes/No)

XG-SFP-CU1M	Passive	SFP Plus	1 m	28	10.3125	No
XG-SFP-CU3M	Passive	SFP Plus	3 m	28	10.3125	No

Caution Note electrostatic discharge (ESD) prevention and protection while using the SFP Plus copper cable.

Caution Please keep the beveling radius of the SFP Plus copper cable not less than eight times of the cable diameter during cabling.

Appendix D 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.