Quidway S3700 Series Ethernet Switches

V100R006C01

Hardware Description

Issue 02

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About This Document

Intended Audience

This document provides an overall description of the S3700, details about each chassis and board, cables available to the device, and lists of components.

This document describes hardware features of the S3700, which helps intended readers obtain detailed information about each chassis, board, and cable, and rapidly locate specific information through lists of components.

This document is intended for:

- Network planning engineers
- Hardware installation engineers
- Commissioning engineers
- On-site maintenance engineers
- System maintenance engineers

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
⚠ **DANGER**	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.
⚠ **WARNING**	Indicates a hazard with a medium or low level of risk, which if not avoided, could result in minor or moderate injury.
⚠ **CAUTION**	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
☞ **TIP**	Indicates a tip that may help you solve a problem or save time.
📖 **NOTE**	Provides additional information to emphasize or supplement important points of the main text.

Change History

Updates between document issues are cumulative. Therefore, the latest document issue contains all updates made in previous issues.

Changes in Issue 02 (2011-11-21)

Based on issue 01 (2011-10-26), the document is updated as follows:

The documentation is modified according to updates in product features.

Changes in Issue 01 (2011-10-26)

Initial commercial release.

Contents

1 Overview of the S3700

About This Chapter

1.1 Introduction

This section describes the characteristics of the S3700.

1.1.1 Positioning

⚠ WARNING

The Quidway S3700 Ethernet switches are class A products. Customers should take preventative measures as the operating devices may cause radio interference.

The Quidway S3700 switch (S3700 for short) is an enterprise networks access device that provides access and data transport functions. The S3700 is developed by Huawei to meet the requirements for reliable access, aggregation, and high-quality transmission of multiple services on an enterprise networks . The S3700 functions as the access device of the enterprise networks. The S3700 provides large capacity, high port density, and cost-effective packet forwarding capabilities. The S3700 also provides multi-service access capabilities, excellent extensibility, quality of service (QoS) guarantee, powerful multicast replication, and carrier-class security, and can be used to build high-reliability ring topologies.

1.1.2 Product Characteristics

Energy-Saving Design

The S3700 saves energy in the following ways:

- Some models adopt natural heat dissipation, so fans are not required.

  📖 **NOTE**

  > Currently, the S3700-28TP-SI-AC, S3700-28TP-SI-DC, S3700-28TP-EI-AC, and S3700-28TP-EI-DC adopt natural heat dissipation.

- The interface chip switches to the power saving mode when an interface is idle, which means that no peer device is connected to the interface.

- It uses advanced highly-integrated and energy-saving chips. With the help of the intelligent device management system, the chips improve system performance and also reduce system power consumption.

Natural heat dissipation has the following advantages:

- Product reliability is high.

- There is no noise pollution.

- Fans do not need to be maintained periodically, which saves the maintenance cost.

- The system does not have additional power consumption generated by fans, which improves the power efficiency.

- Boards are prevented from being eroded.

Advanced Surge Protection Technique

The S3700 uses the Huawei patented built-in surge protection technique. This technique protects devices against lightning in terrible weather and increases device security.

Convenient PoE Power Supply

The S3700 has the Power over Ethernet (PoE) function. It provides centralized power supply for IP phones, wireless access points (APs), portable device chargers, POS machines, cameras, and data collectors by using twisted pairs.

Complying with IEEE 802.3af and IEEE 802.3at, the PoE S3700 is able to remotely provide power for the devices of different vendors. IEEE 802.3at delivers a maximum of 30 W power. This allows IEEE 802.3at to support IP video phones, dualband WiFi APs, IP cameras, multi-function STBs, and RFIDs, and simplifies the network.

The S3700 has the ability to control power supply based on time range, which effectively manages network devices, reduces power consumption, and lowers the OPEX.

1.2 S3700 Device Models and Naming Rules

This section describes device models and naming rules of the S3700.

Device Models

To meet diverse customer requirements, the S3700 provides a variety of models. **Table 1-1** lists these device models.

You can select a device model as required.

Table 1-1 Device models

Product Series	Model	Maximum Number of Interfaces
S3700	S3700-28TP-SI-AC S3700-28TP-SI-DC S3700-28TP-EI-AC S3700-28TP-EI-DC S3700-28TP-EI-MC-AC	28 There are twenty-four 10/100BASE-T Ethernet interfaces, two 100/1000BASE-X Ethernet optical interfaces, and two GE combo interfaces (10/100/1000BASE-T+100/1000BASE-X).
	S3700-28TP-EI-24S-AC	28 There are twenty-four 100BASE-X Ethernet interfaces, two 100/1000BASE-X Ethernet optical interfaces, and two GE combo interfaces (10/100/1000BASE-T+100/1000BASE-X).
	S3700-52P-SI-AC S3700-52P-EI-AC S3700-52P-EI-DC	52 There are forty-eight 10/100BASE-T Ethernet interfaces, two 100/1000BASE-X Ethernet optical interfaces, and two GE SFP interfaces.

Product Series	Model	Maximum Number of Interfaces
	S3700-52P-EI-24S-AC S3700-52P-EI-24S-DC	52 There are twenty-four 10/100BASE-T Ethernet interfaces, twenty-four 100BASE-X Ethernet interfaces, two 100/1000BASE-X Ethernet optical interfaces, and two GE SFP interfaces.
	S3700-52P-EI-48S-AC S3700-52P-EI-48S-DC	52 There are forty-eight 100BASE-X Ethernet interfaces, two 100/1000BASE-X Ethernet optical interfaces, and two GE SFP interfaces.
	S3700-28TP-PWR-EI	28 There are twenty-four 10/100BASE-T Ethernet interfaces, two 100/1000BASE-X Ethernet optical interfaces, and two GE combo interfaces (10/100/1000BASE-T+100/1000BASE-X).
	S3700-52P-PWR-EI	52 There are twenty-four 10/100BASE-T Ethernet interfaces, twenty-four 100BASE-X Ethernet interfaces, two 100/1000BASE-X Ethernet optical interfaces, and two GE SFP interfaces.
	S3700-26C-HI	26 There are twenty-two 10/100BASE-T Ethernet interfaces, two GE combo interfaces (10/100/1000BASE-T+100/1000BASE-X), and two interfaces on the front subcard.

Naming Rules

The following are the naming rules of the S3700-28TP-PWR-EI, S3700-52P-EI-24S-DC, S3700-28TP-SI-AC, S3700-28TP-EI-MC-AC and S3700-26C-HI.

Figure 1-1 Naming rules

Quidway S3700-28TP-PWR-EI

A   B C   D E   F   G

Quidway S3700-52P-EI-24S-DC

D E G   H   I

Quidway S3700-28TP-SI-AC

D E   G   I

Quidway S3700-28TP-EI-MC-AC

D E   G   J   I

Quidway S3700-26C-HI

D E   G

Identifier	Description
A	Product brand.
B	Switch.
C	Product series. "37" indicates the S3700 series.
D	Maximum number of interfaces. **NOTE** The number of interfaces on an S3700 can be 26, 28, or 52, depending on the device model.

Identifier	Description
E	Uplink interface type: ● **P**: A device has optical interfaces. ● **TP**: A device has combo interfaces supporting optical and electrical interfaces. ● **C**: A device supports interface cards. There can be two or four uplink interfaces on an interface subcard.
F	The S3700 supports Power over Ethernet (PoE). **NOTE** If this letter is not displayed, PoE is not supported.
G	Software version type: ● **EI**: enhanced version, supporting enhanced features ● **SI**: standard version, supporting basic features ● **HI**: advanced version, supporting high-performance Operation, Administration, and Maintenance (OAM) and built-in real-time clock (RTC)
H	Downlink interface type. The value 24S indicates that 24 downlink interfaces of the S3700-52P-EI-24S are optical interfaces. **NOTE** If this letter is not displayed, all downlink interfaces are electrical interfaces.
I	Powering mode: ● **AC**: alternating current power ● **DC**: direct current power
J	The device has monitoring interfaces.

1.3 Device Structure

This section describes the structure of the S3700.

The S3700 adopts an integrated hardware platform that provides the front-access structure. An S3700 consists of the chassis, power supply unit, fan, and switch control unit (SCU). The width of an S3700 complies with industry standards, and the S3700 can be installed in an IEC297 cabinet or an ETSI cabinet.

 NOTE

The S3700 is 1 U (1 U = 44.45 mm) high.

● The dimensions of S3700-28TP-EI-MC-AC, S3700-28TP-SI-AC, S3700-28TP-EI-AC, S3700-28TP-SI-DC, S3700-28TP-EI-DC, S3700-26C-HI, S3700-28TP-EI-24S-AC, S3700-52P-SI-AC, S3700-52P-EI-DC or S3700-52P-EI-AC are 442.0 mm x 220.0 mm x 43.6 mm (width x depth x height).

● The dimensions of S3700-52P-EI-24S-AC, S3700-52P-EI-24S-DC, S3700-52P-EI-48S-AC, S3700-52P-EI-48S-DC, S3700-28TP-PWR-EI or S3700-52P-PWR-EI are 442.0 mm×420.0 mm× 43.6 mm (width x depth x height).

S3700 Appearances

Table 1-2 shows the front views of S3700.

Table 1-2 S3700 front views
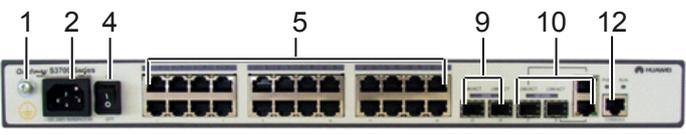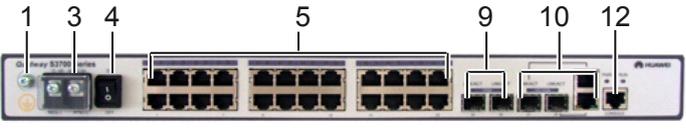
Model	Image
S3700-28TP-SI-AC S3700-28TP-EI-AC	
S3700-28TP-SI-DC S3700-28TP-EI-DC	
S3700-28TP-EI-24S-AC	
S3700-52P-EI-24S-AC S3700-52P-EI-24S-DC	
S3700-52P-EI-48S-AC S3700-52P-EI-48S-DC	
S3700-52P-EI-AC S3700-52P-EI-DC S3700-52P-SI-AC	
S3700-28TP-PWR-EI	
S3700-52P-PWR-EI	
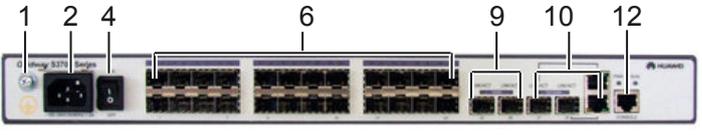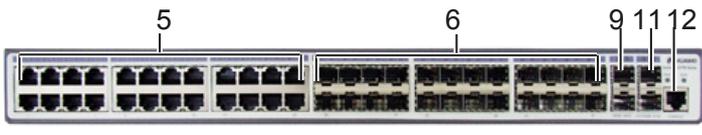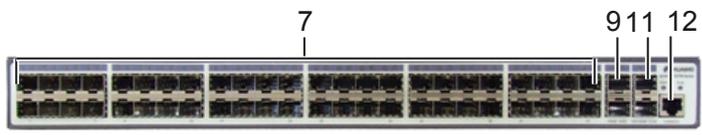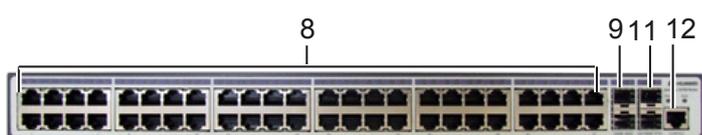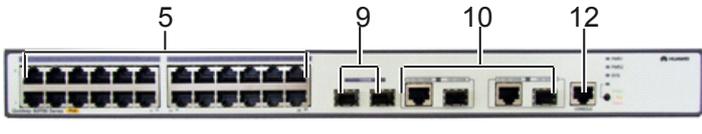
Model	Image
S3700-28TP-EI-MC-AC	
S3700-26C-HI	
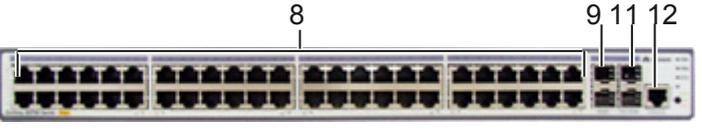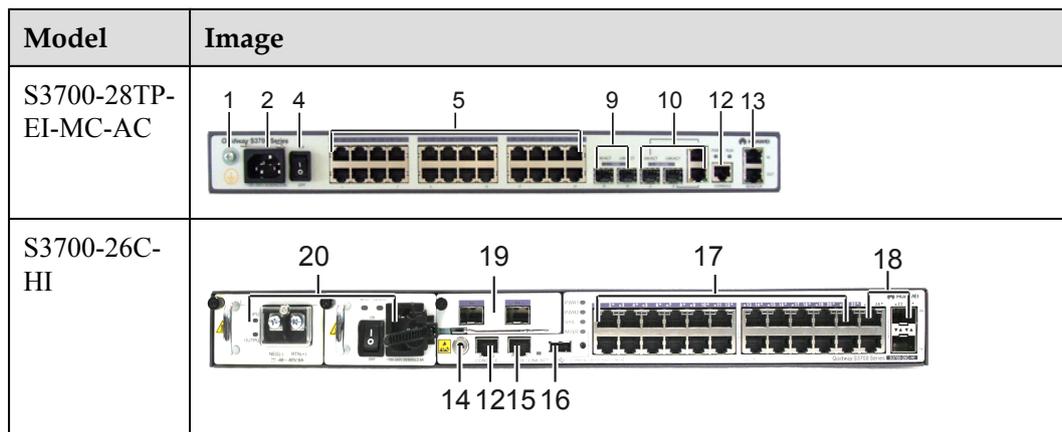
1. Ground screw	2. AC jack	3. DC jack	4. Switch
5. Twenty-four 10/100BASE-T Ethernet interfaces	6. Twenty-four 100BASE-X Ethernet interfaces	7. Forty-eight 100BASE-X Ethernet interfaces	8. Forty-eight 10/100BASE-T Ethernet interfaces
9. Two 100/1000BASE-X Ethernet optical interfaces	10. Two 1000M combo interfaces (10/100/1000BASE-T+100/1000BASE-X)	11. Two 1000M uplink interfaces (SFP)	12. One console interface
13. Two monitoring ports	14. ESD jack	15. One management interface	16. One USB interface
17. Twenty-two 10/100BASE-T Ethernet interfaces	18. Two 1000M combo interfaces (10/100/1000BASE-T+100/1000BASE-X)	19. Front subcard slot	20. Power supply unit slot

📖 **NOTE**

By default, a combo interface works in the auto mode. In the auto mode, if the electrical interface is connected to a network cable first, the combo interface works as an electrical interface to transmit data; if the optical interface is connected to a fiber first, the combo interface works as an optical interface to transmit data.

Table 1-3 shows the rear views of S3700.

Table 1-3 S3700 rear views

Model	Image
S3700-28TP-SI-AC S3700-28TP-EI-AC S3700-28TP-SI-DC S3700-28TP-EI-DC S3700-28TP-EI-MC-AC S3700-28TP-EI-24S-AC	
S3700-52P-EI-24S-AC S3700-52P-EI-48S-AC	
S3700-52P-EI-24S-DC S3700-52P-EI-48S-DC	
S3700-52P-EI-AC S3700-52P-SI-AC	
S3700-52P-EI-DC	
S3700-28TP-PWR-EI S3700-52P-PWR-EI	
S3700-26C-HI	
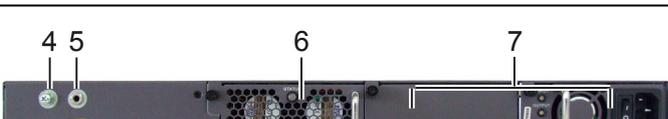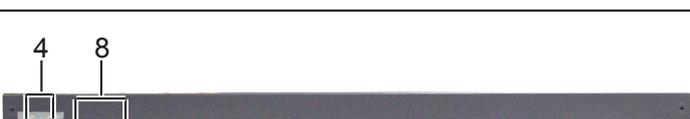
1. AC jack	2. DC jack	3. Switch	4. Ground screw

5. ESD jack	6. Fan module	7. Power supply unit slot	8. Two monitor interfaces

1.4 ESD Jack

This section describes the functions of the ESD jack on the S3700.

The S3700 has an electromagnetic discharge (ESD) jack on the chassis.

When installing the S3700, wear an ESD wrist strap. Connect the ESD wrist strap to the ESD jack on the chassis, as shown in **Figure 1-2**.

Figure 1-2 ESD jack

◫ **NOTE**

> S3700-28TP-EI-MC-AC, S3700-28TP-SI-AC, S3700-28TP-SI-DC, S3700-28TP-EI-AC, S3700-28TP-EI-DC, and S3700-28TP-EI-24S-AC do not have any ESD jack. The ESD jack of S3700-26C-HI is located on the front side of the chassis; the ESD jacks of other models are located on the rear side of the chassis.

1.5 System Configuration

Table 1-4 System configuration

Item	Parameter
Processor	S3700-26C-HI: 1GHz S3700-28TP: 266 MHz S3700-52P: 200 MHz
Switching capacity	● S3700-28TP: 12.8 Gbit/s ● S3700-52P: 17.6 Gbit/s ● S3700-26C-HI: 12.4Gbit/s
Packet forwarding capacity	● S3700-28TP: 9.6 Mpps ● S3700-52P: 13.1 Mpps ● S3700-26C-HI: 9.2Mpps
DDR memory	512M for S3700-26C-HI and 128 MB for others
Flash Memory	64M for S3700-26C-HI and 16 MB for others

1.6 Physical Specifications

Table 1-5 Physical specifications

Item		Description
Dimensions (width x depth x height)		• S3700-28TP-EI-MC: 442.0 mm x 220.0 mm x 43.6 mm • S3700-28TP-SI/EI: 442.0 mm x 220.0 mm x 43.6 mm • S3700-28TP-EI-24S: 442.0 mm x 220.0 mm x 43.6 mm • S3700-52P-SI/EI: 442.0 mm x 220.0 mm x 43.6 mm • S3700-52P-EI-24S: 442.0 mm x 420.0 mm x 43.6 mm • S3700-52P-EI-48S: 442.0 mm x 420.0 mm x 43.6 mm • S3700-28TP-PWR-EI: 442.0 mm x 420.0 mm x 43.6 mm • S3700-52P-PWR-EI: 442.0 mm x 420.0 mm x 43.6 mm • S3700-26C-HI: 442.0mm x 220.0mm x 43.6mm
Maximum power (full configuration)		• S3700-28TP-EI-MC: 20 W • S3700-28TP-SI/EI: 20 W • S3700-28TP-EI-24S: 52 W • S3700-52P-SI/EI: 38 W • S3700-52P-EI-24S: 66 W • S3700-52P-EI-48S: 92 W • S3700-28TP-PWR-EI: 875 W (Dissipated power: 135 W, PoE: 740 W) • S3700-52P-PWR-EI: 880 W (Dissipated power: 140 W, PoE: 740 W) • S3700-26C-HI: 56 W
Weight	Full configuration	⩽ 6.5 kg
	Empty chassis	⩽ 5 kg
DC input voltage	Rated voltage	–48V DC to –60V DC

Item		Description
	Maximum voltage	−36V DC to −72V DC
AC input voltage	Rated voltage	100V AC to 240V AC
	Maximum voltage	90V AC to 264V AC
Temperature	operating temperature	0°C to 50°C S3700HI: -5°C to 55°C (Altitude: 0 m to 1800 m)
	Storage temperature	-40°C to 70°C
Relative humidity		10%RH to 90%RH
Altitude		0 m to 2000 m S3700HI: 0 m to 4000 m

2 Power Supply Unit

About This Chapter

This chapter describes the AC and DC power supply units of the S3700.

⚠ **CAUTION**

- Only the power supply units of the same power can be used on an S3700.
- Power off the S3700 before removing the power supply units. Do not operate the power supply units when the S3700 is running.
- Before powering off the S3700, shut down all its power supply units.

2.1 Power Supply Configuration
This section describes the power supply configuration on the S3700.

2.2 Power Supply Unit Working Mode
This section describes the working mode of S3700 power supply units.

2.3 170 W DC Power Supply Units
This section describes the functions, appearance, switch, indicators, and technical specifications of the S3700 170 W DC power supply unit.

2.4 170 W AC Power Supply Units
This section describes the functions, appearance, switch, indicators, and technical specifications of the S3700 170 W AC power supply unit.

2.1 Power Supply Configuration

This section describes the power supply configuration on the S3700.

PoE Power Supply

The downlink electrical interfaces of S3700 PoE switches provide PoE power. Each interface provides a maximum of 30 W power and supports a maximum of 100 m power supply distance. The S3700 can transmit both current and data on a pair of signal cables.

PoE power supply units are classified into two types: 500 W current sharing power supply and 250 W current sharing power supply.

Power Supply Unit	PoE Power	Device Power
500 W current sharing power supply	369.6 W	120 W
250 W current sharing power supply	123.2 W	120 W

The S3700 PoE switches include:

- S3700-28TP-PWR-EI

  S3700-28TP-PWR-EI provides two power supply unit slots. Each slot accommodates a 500 W or 250 W power supply unit. The power supply configurations are shown in the following table.

Power Supply Unit		PoE Power	Maximum Number of Interfaces
250 W current sharing power supply	-	123.2 W	• 802.3af: 8 • 802.3at: 4
500 W current sharing power supply	-	369.6 W	• 802.3af: 24 • 802.3at: 12
250 W current sharing power supply	250 W current sharing power supply	246.4 W	• 802.3af: 16 • 802.3at: 8
500 W current sharing power supply	500 W current sharing power supply	739.2 W	• 802.3af: 24 • 802.3at: 24

- S3700-52P-PWR-EI

  S3700-52P-PWR-EI provides two power supply unit slots. Each slot accommodates a 500 W or 250 W power supply unit. The power supply configurations are shown in the following table.

Power Supply Unit		PoE Power	Maximum Number of Interfaces
250 W current sharing power supply	-	123.2 W	• 802.3af: 8 • 802.3at: 4
500 W current sharing power supply	-	369.6 W	• 802.3af: 24 • 802.3at: 12
250 W current sharing power supply	250 W current sharing power supply	246.4 W	• 802.3af: 16 • 802.3at: 8
500 W current sharing power supply	500 W current sharing power supply	739.2 W	• 802.3af: 48 • 802.3at: 24

📖 **NOTE**

Current sharing indicates that the power of two power supply units can be accumulated for PDs. The power for the device cannot be accumulated.

When two power supply units are used, they work in redundancy backup mode to provide power for the device and in load balancing mode to provide power for PDs.

Non-PoE Power Supply Configuration

On a non-PoE switch, one or two power supply units can be configured.

When two power supply units are used, they work in 1:1 backup mode to provide power for the device.

📖 **NOTE**

The S3700 non-PoE switches except S3700-26C-HI do not support hot swappable power supply units.

The AC power supply and the DC power supply can be configured on an S3700-26C-HI.

2.2 Power Supply Unit Working Mode

This section describes the working mode of S3700 power supply units.

2.2.1 Working Mode of DC Power Supply Units

Figure 2-1 Working mode of DC power supply units
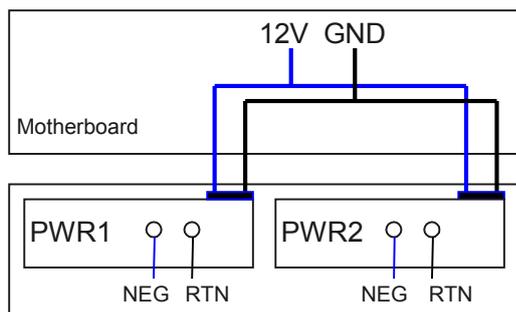
NEG: Power cable   RTN: Ground cable   GND: Grounding

S3700-26C-HI After the DC power is transmitted to the PWR module, the PWR module outputs 12 V voltage, and then the motherboard provides power for the entire device.

Figure 2-2 Working mode of DC power supply units
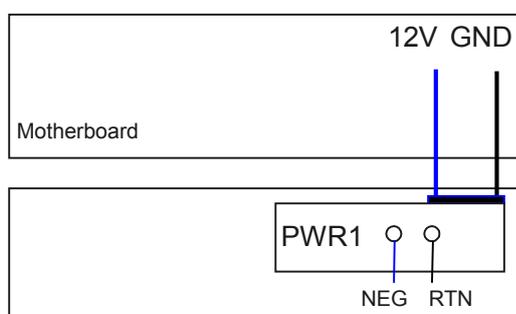
NEG: Power cable   RTN: Ground cable   GND: Grounding

On a switch except S3700-26C-HI, after the DC power is transmitted to the PWR module, the PWR module outputs 12 V voltage, and provides power for the entire device.

2.2.2 Working Mode of Non-PoE AC Power Supply Units

The working mode of the S3700 non-PoE AC power supply units is shown in **Figure 2-3** and **Figure 2-4**.

Figure 2-3 Working mode of non-PoE AC power supply units
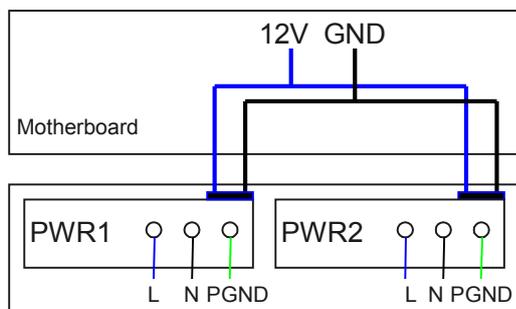
L: Live line   N: Neutral wire   PGND: PGND cable   GND: Grounding

After the AC power is transmitted to the PWR module on the S3700-26C-HI, the PWR module outputs 12 V voltage, and then the motherboard provides power for the entire device.

Figure 2-4 Working mode of a non-PoE AC power supply unit that functions alone

L: Live line   N: Neutral wire   PGND: PGND cable   GND: Grounding
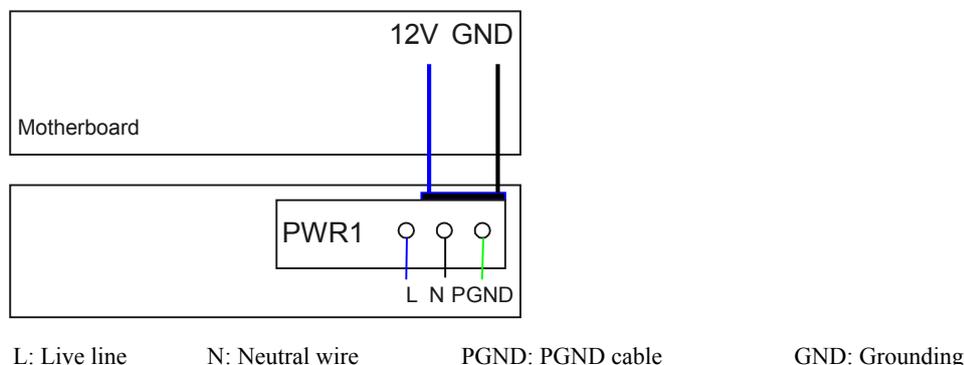
On a switch except S3700-26C-HI, after the AC power is transmitted to the PWR module, the PWR module outputs 12 V voltage, and provides power for the entire device.

2.2.3 Working Mode of PoE AC Power Supply Units

The working mode of S3700 PoE AC power supply units is shown in **Figure 2-5**.

Figure 2-5 Working mode of PoE AC power supply units

L: Live line   N: Neutral wire   PGND: PGND cable   GND: Grounding   RTN: Ground cable
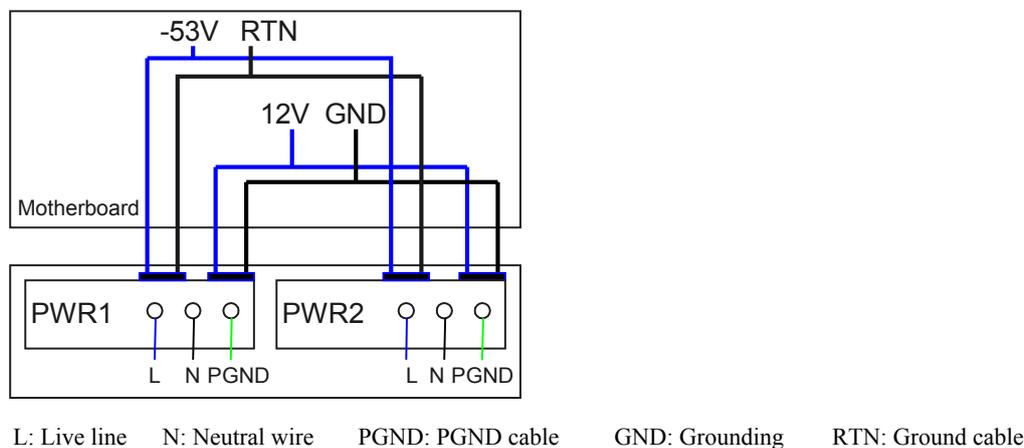
After the PoE power is transmitted to the PWR module, the PWR module outputs 12 V and -53 V voltage, and then the motherboard provides 12 V voltage for the entire device and -53 V voltage for the powered devices (PDs).

2.3 170 W DC Power Supply Units

This section describes the functions, appearance, switch, indicators, and technical specifications of the S3700 170 W DC power supply unit.

2.3.1 Function Overview

The 170 W DC power supply units are used on S3700-26C-HI. A power supply unit provides +12 V DC power, and it has the following functions:

- EMC filtering and surge protection
- Protection against reversed connection, input and output overcurrent, input and output overvoltage, short circuit, and overtemperature
- Various alarms, for example, the alarm triggered when there is no power input or output

📖 **NOTE**

Only S3700-26C-HI support the 170 W DC power supply unit.

2.3.2 Panel

Figure 2-6 shows the appearance of the 170 W DC power supply unit.

Figure 2-6 Appearance of the 170 W DC power supply unit
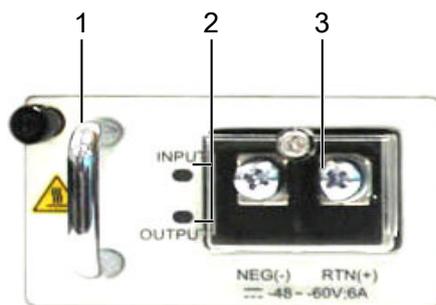
| 1. Handle | 2. Indicator | 3. DC jack |

Table 2-1 describes the meanings of the indicators.

Table 2-1 Description of the 170 W DC power indicators

Name	Status	Description
INPUT	Green	The DC input power is within range.
	Off	The DC input power is out of range or no DC input power.
OUTPUT	Green	The DC output power is within range.
	Blinking green	The output power is out of range, for example, overvoltage, overcurrent, or short circuit occurs.

Name	Status	Description
	Off	The DC output power is out of range.

2.3.3 Technical Specifications

Table 2-2 describes the technical specifications of the 170 W DC power supply unit.

Table 2-2 Technical specifications of the 170 W DC power supply unit

Item	S3700-26C-HI
Dimensions (width x depth x height)	195.4 mm x 60.0 mm x 40.0 mm
Weight	< 0.8 kg
Rated input voltage range	-60 V DC to –48 V DC
Maximum input voltage range	-72 V to -36 V DC
Maximum input current	6 A
Maximum output current	14.2 A
Rated output voltage	12 V
Maximum output power	170 W

2.4 170 W AC Power Supply Units

This section describes the functions, appearance, switch, indicators, and technical specifications of the S3700 170 W AC power supply unit.

2.4.1 Function Overview

170 W AC power supply units are used on S3700-26C-HI. A power supply unit provides +12 V AC power, and it has the following functions:

● EMC filtering and surge protection

● Protection against reversed connection, input and output overcurrent, input and output overvoltage, short circuit, and overtemperature

● Various alarms, for example, the alarm triggered when there is no power input or output

📖 **NOTE**

Only S3700-26C-HI support the 170 W AC power supply unit.

2.4.2 Panel

Figure 2-7 shows the appearance of the 170 W AC power supply unit.

Figure 2-7 Appearance of the 170 W AC power supply unit
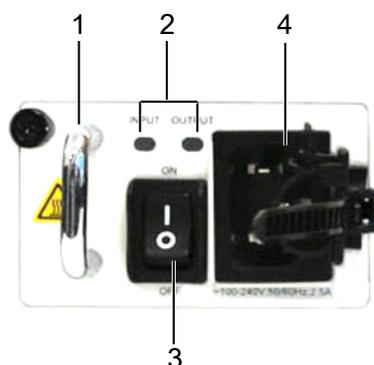
1. Handle   2. Indicator   3. Switch   4. AC jack

Table 2-3 describes the meanings of the indicators.

Table 2-3 Description of the 170 W AC power indicators

Name	Status	Description
INPUT	Green	The AC input power is within range.
	Off	The AC input power is out of range or no AC input power.
OUTPUT	Green	The AC output power is within range.
	Blinking green	The output power is out of range, for example, overvoltage, overcurrent, or short circuit occurs.
	Off	The AC output power is out of range.

2.4.3 Technical Specifications

Table 2-4 describes the technical specifications of the AC power supply unit.

Table 2-4 Technical specifications of the AC power supply unit

Item	S3700-26C-HI
Dimensions (width x depth x height)	195.4 mm x 60.0 mm x 40.0 mm

Item	S3700-26C-HI
Weight	< 1.0 kg
Rated input voltage range	100 V AC to 240 V AC, 50/60 Hz
Maximum input voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz
Maximum input current	2.5 A
Maximum output current	14.2 A
Rated output voltage	12 V
Maximum output power	170 W

3 Heat Dissipation System

About This Chapter

This chapter describes the heat dissipation system of the S3700.

3.1 Heat Dissipation Mode
This section describes the heat dissipation modes of the S3700.

3.2 Fan Module
This section describes the appearance and technical specifications of the S3700 fan module.

3.1 Heat Dissipation Mode

This section describes the heat dissipation modes of the S3700.

The heat dissipation system ensures that the S3700 operates at a normal temperature. The operating temperature of the S3700 is the long-term operating temperature in **1.6 Physical Specifications**.

The heat dissipation system can be in the following modes:

- Natural heat dissipation
- Intelligent heat dissipation
- Forcible heat dissipation

Table 3-1 provides the S3700 models corresponding to each heat dissipation mode.

Table 3-1 S3700 heat dissipation modes

Heat Dissipation Mode	Model
Natural heat dissipation	- S3700-28TP-SI-AC - S3700-28TP-SI-DC - S3700-28TP-EI-AC - S3700-28TP-EI-DC - S3700-28TP-EI-MC-AC
Intelligent heat dissipation	- S3700-52P-SI-AC - S3700-52P-EI-AC - S3700-52P-EI-DC
Forcible heat dissipation	- S3700-52P-EI-24S-AC - S3700-52P-EI-24S-DC - S3700-52P-EI-48S-AC - S3700-52P-EI-48S-DC - S3700-28TP-EI-24S-AC - S3700-28TP-PWR-EI - S3700-52P-PWR-EI - S3700-26C-HI

📖 **NOTE**

The fans of S3700-52P-EI-24S-AC, S3700-52P-EI-24S-DC, S3700-52P-EI-48S-AC, S3700-52P-EI-48S-DC, and S3700-28TP-EI-24S-AC support Pulse Width Modulation (PWM) speed adjustment.

The fans can work in the intelligent mode or forcible mode.

In the intelligent mode, the fans start to operate only when the ambient temperature goes higher than a specified value.

The following table describes the air circulation through the S3700 chassis.

No.	Air Circulation	Model
1		• S3700-28 TP-PWR-EI • S3700-52 P-PWR-EI
2		• S3700-52 P-SI-AC • S3700-52 P-EI-AC • S3700-52 P-EI-DC • S3700-26 C-HI
3		• S3700-28 TP-EI-24S-AC • S3700-52 P-EI-24S-AC • S3700-52 P-EI-24S-DC • S3700-52 P-EI-48S-AC • S3700-52 P-EI-48S-DC **NOTE** On S3700-28TP-EI-24S-AC, air also flows into the chassis from the left side.

3.2 Fan Module

This section describes the appearance and technical specifications of the S3700 fan module.

Appearance

The S3700 fan module consists of two fans. The fans can be replaced when the device is operating.

The fan module can be installed on S3700-28TP-PWR-EI and S3700-52TP-PWR-EI.

Figure 3-1 shows the appearance of the fan module.

Figure 3-1 Fan module appearance
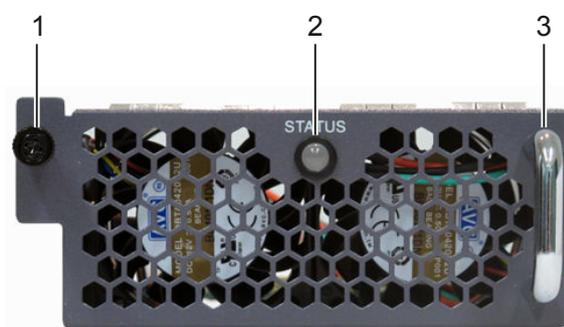
| 1. Captive screw | 2. Indicator | 3. Handle |

Indicator

Table 3-2 describes the fan module indicator of the S3700.

Table 3-2 Fan indicator description

Name	Color	Description
STATUS	Blinking green (1 Hz)	The fan module is operating properly.
	Blinking red (1 Hz)	The fan module is faulty.

Technical Specifications

Table 3-3 describes the technical specifications of the S3700 fan module.

Table 3-3 Fan module technical specifications

Item	Specification
Dimensions (width x depth x height)	103.0 mm x 99.2 mm x 39.6 mm
Weight	230 g to 270 g
Maximum power consumption	12 W
Maximum wind pressure	375 Pa
Maximum wind rate	40 CFM
Maximum noise	60 dB
Operating voltage	12 V DC

4 Interface Subcards

About This Chapter

This section describes the interface subcards supported by the S3700.

4.1 Introduction
This section provides an overview of the interface subcards supported by the S3700, including interface subcard types, relationships between interface subcards, and interface numbers.

4.2 G2S-2-Port GE SFP Optical Interface Subcard
This section describes the functions, appearance, indicators, interfaces, and technical specifications of the 2-port GE SFP optical interface subcard.

4.1 Introduction

This section provides an overview of the interface subcards supported by the S3700, including interface subcard types, relationships between interface subcards, and interface numbers.

4.1.1 Interface Subcard Types

Table 4-1 lists the interface subcards supported by the S3700.

Table 4-1 List of the interface cards supported by the S3700

Interface Subcard Type	Name	Supported Device Model
Front subcard	G2S-2-port GE SFP optical interface subcard	S3700-26C-HI

4.1.2 Interface Numbering

On the S3700, interfaces are numbered in the format of slot ID/subcard ID/interface sequence number.

- Slot ID

  The slot ID specifies the ID of the slot where a card resides. The S3700 supports only one card that integrates the control, switching, and service functions, so the slot ID is always 0.

- Subcard ID

  The subcard ID specifies the ID of a subcard. The S3700 does not support interface cards, so the subcard ID is always 0.

  The S3700 supports only one front subcard, so the subcard ID is 0 or 1.

  The value 1 indicates an interface on a front subcard. The value 0 indicates an interface on the device.

- Interface sequence number

  The interface sequence number indicates the number of each interface on a subcard as shown in **Table 4-2**.

Table 4-2 Interface numbering rules

Number of Rows for Interfaces	Diagram for Interface Numbering	Description
1		There is only one row of interfaces on the interface subcard. These interfaces are numbered from left to right starting with 1.
2		There are two rows of interfaces on the interface subcard. These interfaces are numbered from bottom to top and left to right starting with 1.
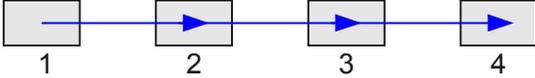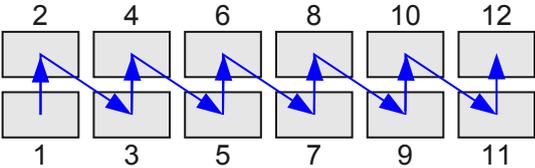
If an interface does not reside on a front subcard and is the fifth interface from left to right and top to bottom, the interface is named Ethernet 0/0/5. If the stacking function is enabled and the stack ID is 1, the interface is named Ethernet 1/0/5.

If an interface resides on a front subcard and is the third interface from left to right, the interface is named Ethernet 0/1/3. If the stacking function is enabled and the stack ID is 1, the interface is named Ethernet 1/1/3.

4.2 G2S-2-Port GE SFP Optical Interface Subcard

This section describes the functions, appearance, indicators, interfaces, and technical specifications of the 2-port GE SFP optical interface subcard.

4.2.1 Functions and Applications

Functions

The G2S provides two 1000M SFP optical interfaces to implement data access and line-speed switching.

The S3700HI SCU powers on or off the G2S, detects whether the G2S is installed or not, and manages PHY chips and optical interfaces on the G2S. The G2S works with the entire system to provide enhanced service features such as OAM and BFD.

Applications

The G2S can be inserted into the front subcard slot of the S3700HI and is hot swappable.

4.2.2 Panel

Figure 4-1 shows the appearance of the G2S.

Figure 4-1 Appearance of the G2S

Table 4-3 describes the meanings of indicators on the G2S.

Table 4-3 Description of indicators on the G2S

Indicator	Color	Description
ACT/LINK	Green-yellow	If the indicator is blinking, data is being transmitted or received.
		If the indicator is steady on, a link has been connected.

4.2.3 Interfaces

Table 4-4 describes the types and functions of interfaces on the G2S.

Table 4-4 Types and functions of interfaces on the G2S

Type	Quantity	Description
1000M BASE-X optical interface	2	The G2S provides two 1000 Mbit/s optical interfaces to transmit and receive services at 1000 Mbit/s.

4.2.4 Interface Attributes

Table 4-5 describes the optical interface attributes.

Table 4-5 Attributes of GE optical interfaces (1000M Base-X)

Attribute	Description
Connector type	LC/PC

Attribute	Description
Optical interface attribute	Depending on the optical module (for details, see section **7.3 ESFP Optical Module (GE) Attributes** and section **7.4 ESFP CWDM-SFP Optical Module**)
Standards compliance	IEEE 802.3z
Frame format	Ethernet_II, Ethernet_SAP, or Ethernet_SNAP
Network layer protocol	IP

4.2.5 Technical Specifications

Table 4-6 lists the technical specifications of the G2S.

Table 4-6 Technical specifications of the G2S

Parameter	Description
Dimensions	200.0 mm x 77.0 mm x 23.0 mm (width x depth x height)
Power consumption	3 W
Weight	0.3 kg

5 Cables

About This Chapter

5.1 DC Power Cables

A DC power cable transmits DC power to the switch.

Applications

A DC power cable connects the following two interfaces:

- Input power jack on the chassis
- Output power interface on an external power system

 NOTE

A black -48 V DC power return wire (RTN) is connected to the RTN(+) end of the DC power supply. A blue -48 V DC power cable is connected to the NEG(-) end of the DC power supply.

Appearance and Structure

The black -48 V DC power return wire and the blue -48 V DC power cable are shown in **Figure 5-1** and **Figure 5-2**.

Figure 5-1 -48 V DC power return wire

Figure 5-2 -48 V DC power cable

Specifications

The technical specifications of a -48 V DC power return wire and a -48 V DC power cable are the same, as described in **Table 5-1**.

Table 5-1 Specifications of the DC power cables

Item	Description
Cable type	Power cable
Color	Blue for -48 V DC power cable and black for -48 V DC power return wire
Connector 1	OT
Connector 2	Cord end terminal
Impedance	4.95 Ω/km
Conductor cross-sectional area	1.2 mm^2

5.2 AC Power Cables

An AC power cable transmits AC power to the switch.

Applications

An AC power cable connects the following:

- AC input power jack on the chassis
- Mains supply

Appearance

Figure 5-3 shows the appearance of an AC power cable.

Figure 5-3 Appearance of an AC power cable

Specifications

NOTE

The AC power cables used in different countries and regions may have different specifications. The following are the specifications of the international standard AC power cable.

Table 5-2 lists the specifications of an AC power cable.

Table 5-2 Specifications of an AC power cable

Item	Description
Cable type	External power cable
Function	250 V AC/10 A complying with international standard
Connector 1	PI-straight-male
Connector 2	C13-straight-female

Item	Description
Cable type	- 227 IEC 53 (RVV)-300 V/500 V - Rated voltage: 300 V/500 V - Standards compliance: 227 IEC 53 (RVV)
Conductor cross-sectional area	$3 \times 1.0 \text{ mm}^2$
Fireproof level	GB18380.1

5.3 Ground Cables

A ground cable protects the device from lightning strike and electromagnetic interference.

Applications

A ground cable connects the chassis to the ground.

Appearance

Figure 5-4 shows the appearance of a ground cable.

Figure 5-4 Appearance of a ground cable

Specifications

Table 5-3 lists the specifications of a ground cable.

Table 5-3 Specifications of a ground cable

Item	Description
Cable type	Power cable

Item	Description
Color	Green-yellow
Connector type (X1/X2)	OT/OT naked crimping terminal
Gauge	10 AWG (cross-sectional area $\approx$ 5.2 mm^2)
Cable type	- Standards compliance: UL1015 - Length: 0.3 m
Maximum current	50.0 A
Fireproof level	VW-1, CSA FT1

5.4 Console Cables

A console cable is used to debug or maintain a local S3700.

Applications

A console cable connects the console port of the S3700 to the serial port of an operation terminal to transmit configuration data. A shielded cable or an unshielded cable can be used according to the onsite situation.

A console cable connects the S3700 and terminal as follows:

- The 8-pin RJ45 connector is inserted into the S3700 console port.
- The DB9 connector is inserted into the terminal serial port.

Appearance and Structure

Figure 5-5 shows the structure of a console cable.

Figure 5-5 Structure of a console cable
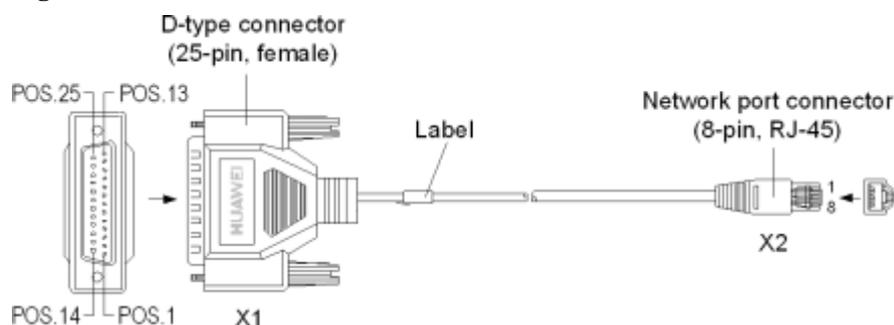
Pin Assignments

Table 5-4 describes the pin assignments of a console cable.

Table 5-4 Pin assignments of a console cable

Connector	X2 (RJ45)	Direction	X1 (DB9)	Signal
Pin assignment	1	--->	8	Clear to Send (CTS)
	2	--->	6	Data Set Ready (DSR)
	3	--->	2	Receive Data (RXD)
	4	—	5	GND
	5	—	5	GND
	6	<---	3	Transmit Data (TXD)
	7	<---	4	Data Terminal Ready (DTR)
	8	<---	7	Request to Send (RTS)

Specifications

Table 5-5 lists the specifications of a console cable.

Table 5-5 Specifications of a console cable

Item	Description
Connector type	• Connector X1: cable connector, D-type, 9-pin, male • Connector X2: network interface connector, RJ45, 8-pin, 8-bit
Cable type	Twisted pair
Color	White
Diameter	0.38 mm
Gauge	28 AWG (cross-sectional area $\approx 0.08 \text{ mm}^2$)
Pin	8-pin
Fireproof level	CM

5.5 Network Cables

A network cable subtends devices, enables a device to communication with other network devices, and allows users to locally or remotely maintain the device.

Applications

A network cable connects a maintenance terminal to the console port on the main control board for local or remote maintenance.

The network cables are classified into straight through cables and crossover cables.

- A straight through cable connects a terminal, such as a computer or switch, to the network. The straight through cable uses two RJ45 connectors, which have the same pinout.

- A crossover cable connects two terminals, such as computers or switches. The crossover cable uses two RJ45 connectors, which have difference pinouts.

Appearance and Structure

◫ **NOTE**

- Generally, a network cable is a standard unshielded network cable that uses RJ45 connectors.

- The appearances of the straight through cable and the crossover cable are the same.

Figure 5-6 shows the appearance of a network cable.

Figure 5-6 Appearance of a network cable

Figure 5-7 shows the appearance of a network cable.

Figure 5-7 Structure of a network cable
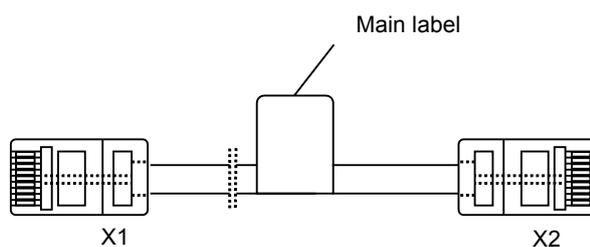
Pin Assignments

Table 5-6 describes the pin assignments of a straight through cable.

Table 5-6 Pin assignments of a straight through cable

X1 Pin	Tip Color	X2 Pin
1	White and orange	1
2	Orange	2
3	White and Green	3
4	Blue	4
5	White and Blue	5
6	Green	6
7	White and brown	7
8	Brown	8

Table 5-7 describes the pin assignments of a crossover cable.

Table 5-7 Pin assignments of a crossover cable

X1 Pin	Tip Color	X2 Pin
1	White and orange	3
2	Orange	6
3	White and Green	1
4	Blue	4
5	White and Blue	5
6	Green	2
7	White and brown	7
8	Brown	8

 NOTE

To achieve the optimum electrical transmission performance, ensure that the wires connected to pins 1 and 2 and to pins 3 and 6 are twisted pairs.

Specifications

Table 5-8 lists the specifications of a network cable.

Table 5-8 Specifications of a network cable

Item	Description
Connector type (X1/X2)	RJ45 connectors
Cable type	Category-3 and category-5 unshielded twisted pairs (UTP-3 and UTP-5) or shielded twisted pairs (STP)
Color	Dark gray
Characteristic impedance	100.0 Ω
Diameter	0.510 mm
Breakdown voltage	500.0 V
Impedance	93.8 Ω
Pin	8 pins
Frequency	0 MHz to 100 MHz
Frequency attenuation	22 dB/100 m@100 MHz
Fireproof level	CM
Length	● Straight through cable: 5 m, 10 m, 20 m, and 30 m ● Crossover cable: 5 m and 30 m

5.6 Optical Fibers

An optical fiber connects the optical interface of a device to an upstream device or optical network terminal.

Applications

An optical fiber carries optical signals and transmits them over short distance. An optical fiber connects the following:

● Optical interface on a board
● Optical distribution frame (ODF) or the optical interface on another device

Table 5-9 lists the classification of optical fibers.

Table 5-9 Optical fiber classification

No.	Purpose	Local End Connector	Remote End Connector	Mode
1	To connect LPU of the device to the ODF	LC/PC	FC/PC	Single mode, indoor
2	To connect LPUs of two devices	LC/PC	LC/PC	Single mode/ multimode, indoor
3	To connect LPU of the device to another device	LC/PC	SC/PC or LC/ PC	Single mode/ multimode, indoor

Appearance

The appearances of the single-mode optical fiber and the multimode optical fiber are the same, but their colors are different. The single-mode optical fiber is yellow, and the multi-mode optical fiber is orange.

⚠ **CAUTION**

When connecting or removing the LC/PC optical connector, align the connector with the optical interface, and do not rotate the fiber. Pay attention to the following points:

● Align the head of the fiber jumper with the optical interface and insert the optical fiber into the interface gently.

● To remove the fiber, press the latch on the connector and pull the fiber out.

Figure 5-8 and **Figure 5-9** show the appearances of a single mode fiber.

Figure 5-8 Single mode fiber with LC/PC connectors
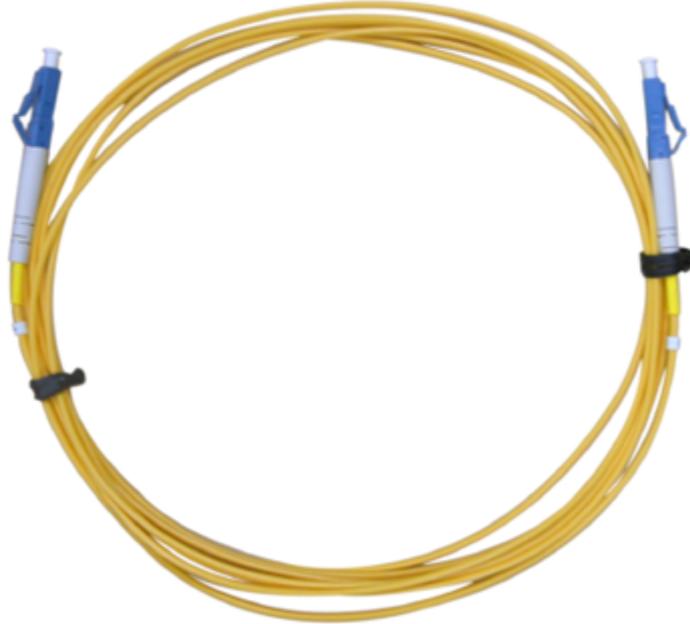
Figure 5-9 Single mode fiber with SC/PC connectors

Figure 5-10 shows the appearance of a multimode fiber.

Figure 5-10 Multimode fiber with LC/PC connectors

Pin Assignments

Table 5-10 describes the pin assignments of an optical fiber.

Table 5-10 Pin assignments of an optical fiber

Local End Terminal	Signal Direction	Remote End Terminal
Optical interface Tx terminal	->	Optical interface Rx terminal
Optical interface Rx terminal	<-	Optical interface Tx terminal

Fiber Selection Criterion

Table 5-11 lists the criteria for selecting optical fibers. **Table 5-12** lists common optical connectors.

Table 5-11 Fiber selection criterion

Parameter	Criterion
Length	Survey result

Parameter	Criterion
Single mode or multimode	Optical module type ● The optical transmitting module of the multitransverse mode is connected to the multimode fiber. ● The optical transmitting module of the single-longitudinal mode or multi-longitudinal mode is connected to the single mode fiber. **NOTE** If the optical fiber jumper is used, the connector connected to the device must be the LC/PC connector, and the connector connected to the remote end must be of the same type as the remote end interface.
Connector shape	● Cube: SC/PC, LC/PC, and MTRJ/PC ● Column: ST/PC and FC/PC

Table 5-12 Common optical connectors

SC/PC optical connector	LC/PC optical connector
FC/PC optical connector	MTRJ/PC optical connector
ST/PC optical connector	-

5.7 Stack cables

This section describes the structure and technical specifications of a stack cable.

Applications

A stack cable of the S3700 is the SFP stack cable, which interconnects the specified interfaces. The S3700s connected with a stack cable form a logical switch to forward packets.

 NOTE

The two ends of a stack cable are covered by the ESD-preventive caps.

Appearance and Structure

Figure 5-11 shows the structure of a stack cable.

Figure 5-11 Structure of a stack cable

Specifications

Table 5-13 lists the specifications of a stack cable.

Table 5-13 Specifications of a stack cable

Item	Description
Cable type	SFP high-speed transmission cable, indoor, (SFP 20 male), (SFP 20 male), SFP, (CC2P0.32 black)-1.5 m
Connector X1/X2	SFP, 20-pin, male
Color	Black
Pin	Two pairs
Length	1.5 m
Bend radius	75 mm

6 List of Indicators

About This Chapter

This chapter describes the status and meanings of the indicators on the S3700, including the indicators for subcards, fan module, and power supply units.

6.1 Indicators on the Front Panel
This section describes the indicators on the S3700 front panel.

6.2 Fan Indicators
This section describes the fan indicators.

6.3 Power Indicators
This section describes the power indicators.

6.1 Indicators on the Front Panel

This section describes the indicators on the S3700 front panel.

Indicators of a Non-PoE S3700

S3700-28TP-SI-AC is a non-PoE switch that has a single power supply unit.

Figure 6-1 S3700-28TP-SI-AC indicators

Table 6-1 Description of S3700-28TP-SI-AC indicators

No.	Indicator	Identifier	Status	Description
1	Power indicator	PWR	Off	The switch is powered off.
			Green	The switch is powered on.
2	System status indicator	RUN	Off	The system is not operating.
			Green	The system is not operating properly or is starting.
			Blinking green	The system is operating properly.
3	Port indicator	LNK/ACT	Off	The interface is not connected or has been shut down.
			Green	The interface is connected.
			Blinking green	The interface is sending or receiving data.

S3700-26C-HI is a non-PoE switch that supports two power supply units.

Figure 6-2 S3700-26C-HI indicators
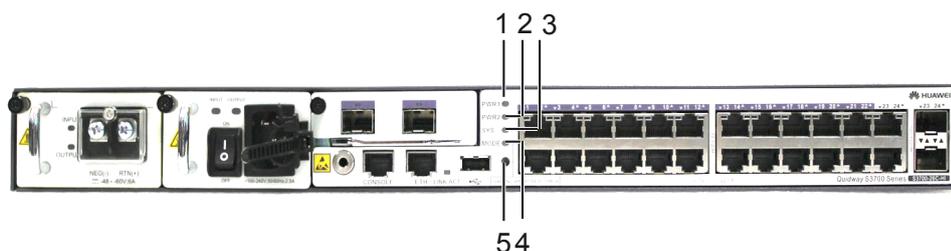
Table 6-2 Description of S3700-26C-HI indicators

No.	Indicator	Identifier	Status	Description
1	Power indicator	PWR1	Off	The power supply units are not present, or the power supply is abnormal when a single power supply unit is used.
			Green	The power supply is normal.
			Red	● Two power supply units are installed properly, but not switched on. ● The power supply units are switched off. ● The power supply units are faulty.
2	Power indicator	PWR2	Off	The power supply units are not present, or the power supply is abnormal when a single power supply unit is used.
			Green	The power supply is normal.
			Red	● Two power supply units are installed properly, but not switched on. ● The power supply units are switched off. ● The power supply units are faulty.
3	System status indicator	SYS	Off	The system is not operating.
			Green	The system is not operating properly or is starting.

No.	Indicator	Identifier	Status	Description
			Orange	The system is performing self-check during startup.
			Blinking green	The system is operating properly.
			Red	After registering, the system does not operate properly, or a power alarm, fan alarm, or temperature alarm is generated.
4	Mode indicator	MODE	Off	The service interface indicator is in the default mode (STAT).
			Green	The service interface indicator indicates the interface speed. After 45 seconds, the service interface indicator automatically restores to off.
			Red	The service interface indicator indicates the stack ID. After 45 seconds, the service interface indicator automatically restores to off.

Indicators of a PoE S3700

S3700-52P-PWR-EI is a PoE switch.

Figure 6-3 S3700-52P-PWR-EI indicators
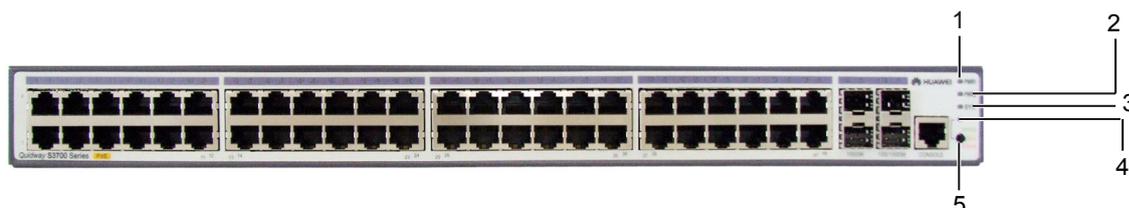
Table 6-3 Description of S3700-52P-PWR-EI indicators

No.	Indicator	Identifier	Status	Description
1	Power indicator	PWR1	Off	The power supply units are not present, or the power supply is abnormal when a single power supply unit is used.
			Green	The power supply is normal.
			Red	- Two power supply units are installed properly, but not switched on. - The power supply units are switched off. - The card power and PoE power are abnormal.
			Orange	If a single power supply unit is installed, the PoE power is out of range. If two power supply units are installed, the card power or PoE power is out of range.
2	Power indicator	PWR2	Off	The power supply units are not present, or the power supply is abnormal when a single power supply unit is used.
			Green	The power supply is normal.

No.	Indicator	Identifier	Status	Description
			Red	- Two power supply units are installed properly, but not switched on. - The power supply units are switched off. - The card power and PoE power are abnormal.
			Orange	If a single power supply unit is installed, the PoE power is out of range. If two power supply units are installed, the card power or PoE power is out of range.
3	System status indicator	SYS	Off	The system is not operating.
			Green	The system is not operating properly or is starting.
			Orange	The system is performing self-check during startup.
			Blinking green	The system is operating properly.
			Red	After registering, the system does not operate properly, or a power alarm, fan alarm, or temperature alarm is generated.
4	Mode indicator	-	Off	The service interface indicator is in the default mode (STAT).

No.	Indicator	Identifier	Status	Description
			Green	The service interface indicator indicates the interface speed. After 45 seconds, the service interface indicator automatically restores to off.
			Orange	The service interface indicator indicates the PoE status. After 45 seconds, the service interface indicator automatically restores to off.
			Red	The service interface indicator indicates the stack ID. After 45 seconds, the service interface indicator automatically restores to off.

As shown in **Figure 6-3**, the button marked "5" is the mode switching button. On an S3700, you can press the mode switching button to switch the display modes of interface indicators. The status of a mode indicator represents the display mode of the related interface indicator. For example, the mode indicator of S3700-28TP-PWR-EI is off and the interface indicators are in STAT state by default. When you press the mode switching button once, the mode indicator turns green and the related interface indicator enters the speed state. When you press the mode switching button for a second time, the mode indicator turns orange and the related interface indicator represents the PoE power status. When you press the mode switching button for a third time, the mode indicator turns red and the related interface indicator represents the stack status. When you press the mode switching button for a fourth time, the mode indicator restores to the default state (off). If you do not press the mode switching button within 45 seconds, the mode indicator automatically restores to off.

The following table describes the meanings of indicators.

Table 6-4 Description of indicators in different modes

Display Mode	Status	Description
STAT	Off	The interface is not connected or has been shut down.
	Green	The interface is connected.

Display Mode	Status	Description
	Blinking green	The interface is sending or receiving data.
Speed	Off	The interface is not connected or has been shut down.
	Green	The interface speed is 10/100 Mbit/s.
	Blinking green	The interface speed is 1000 Mbit/s.
PoE	Off	The interface does not provide remote power.
	Green	The interface is providing remote power.
	Blinking green	● The power of the powered device (PD) exceeds the power supply capability of the port or exceeds the threshold.
Stack	Off	The stack ID of the member switch is not the number of an interface in the off state.
	Green	The device is a not a command switch: ● If the indicator of an interface is always on, the number of this interface is the stack ID of the device. ● If the first nine interface indicators of the device are always on, the stack ID of the device is 0.
	Blinking green	The device is a command switch: ● If the indicator of an interface blinks, the number of this interface is the stack ID of the device. ● If the first nine interface indicators of the device blink, the stack ID of the device is 0.

6.2 Fan Indicators

This section describes the fan indicators.

The S3700 fan module consists of two fans. The fans can be replaced when the device is operating.

Figure 6-4 Fan module appearance

1. Captive screw	2. Indicator	3. Handle
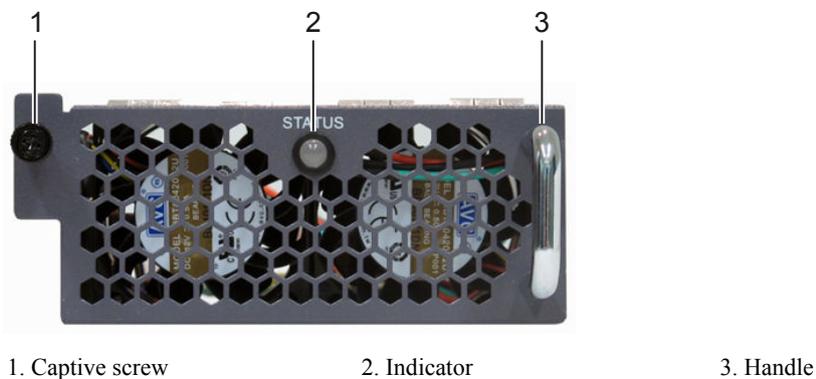
Table 6-5 describes the fan indicators.

Table 6-5 Fan indicator description

Name	Color	Description
STATUS	Blinking green (1 Hz)	The fan module is operating properly.
	Blinking red (1 Hz)	The fan module is faulty.

6.3 Power Indicators

This section describes the power indicators.

Non-PoE Power Indicators

The non-PoE power indicators are displayed on the panel of the power supply unit through the lamp guide. For the indicator description, see **Table 6-6** and **Table 6-7**.

📖 **NOTE**

If a switch does not have a power supply unit, see section **6.1 Indicators on the Front Panel** for the PWR indicator description.

Figure 6-5 shows the appearance of the 170 W DC power supply unit.

Figure 6-5 Appearance of the 170 W DC power supply unit

1. Handle	2. Indicator	3. DC jack

Table 6-6 Description of the 170 W DC power indicators

Name	Status	Description
INPUT	Green	The DC input power is within range.
	Off	The DC input power is out of range or no DC input power.
OUTPUT	Green	The DC output power is within range.
	Blinking green	The output power is out of range, for example, overvoltage, overcurrent, or short circuit occurs.
	Off	The DC output power is out of range.

Figure 6-6 shows the appearance of the 170 W AC power supply unit.

Figure 6-6 Appearance of the 170 W AC power supply unit

1. Handle	2. Indicator	3. Switch	4. AC jack

Table 6-7 Description of the 170 W AC power indicators

Name	Status	Description
INPUT	Green	The AC input power is within range.
	Off	The AC input power is out of range or no AC input power.
OUTPUT	Green	The AC output power is within range.
	Blinking green	The output power is out of range, for example, overvoltage, overcurrent, or short circuit occurs.
	Off	The AC output power is out of range.

AC PoE Power Indicators

Figure 6-7 Appearance of the 250 W AC PoE power supply unit

1. Indicator 2. Handle 3. Fan 4. Switch 5. AC jack
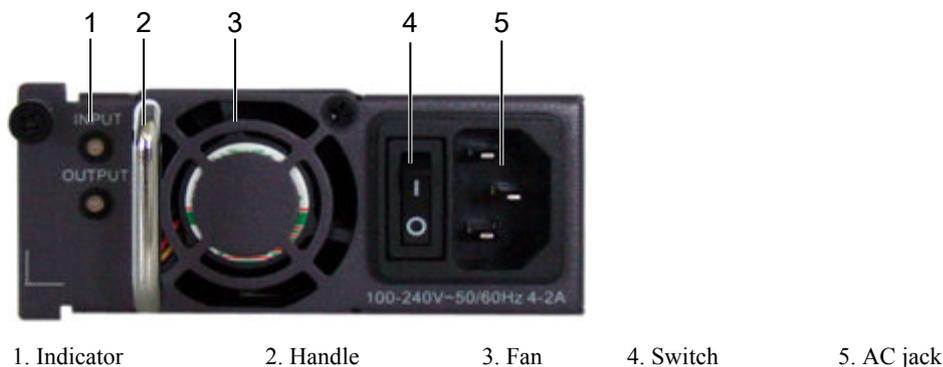
Figure 6-8 Appearance of the 500 W AC PoE power supply unit

1. Indicator 2. Handle 3. Fan 4. Switch 5. AC jack
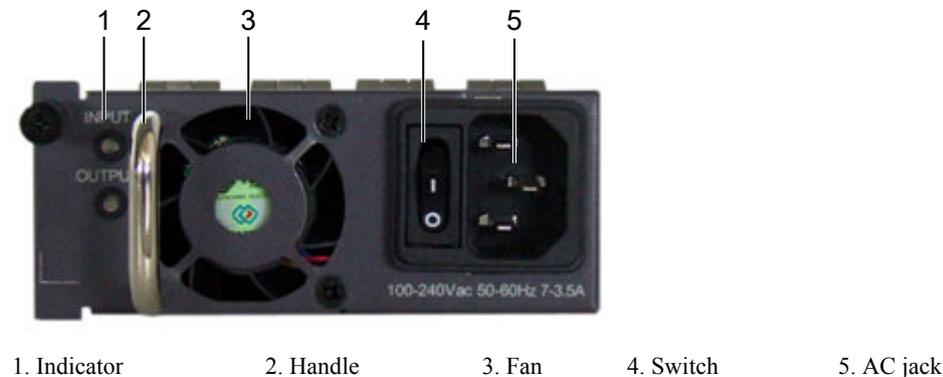
Table 6-8 describes the AC PoE power indicators.

Table 6-8 Description of the AC PoE power indicators

Name	Status	Description
INPUT	Green	The input power is within range.
	Red	The input power is out of range, for example: ● Undervoltage ● Overvoltage
	Off	The power cable is loose or no input AC power is provided.
OUTPUT	Green	The AC output power is within range.
	Red	The output power is out of range, for example: ● Abnormal power fan operation ● Output overvoltage ● Output overcurrent ● Short circuit ● Overtemperature
	Off	The power cable is loose or no input AC power is provided.

7 List of Optical Modules

About This Chapter

This section describes the attributes of optical modules supported by the S3700.

7.1 SFP Optical Module (FE) Attributes

This section describes the attributes of an SFP optical module (FE).

Table 7-1 SFP optical module (FE) attributes

Item	Description
Transmission distance	2 km
Center wavelength	1310 nm
Transmitting power	-23.5 dBm to -14.0 dBm
Receiver sensitivity	-30.0 dBm
Overload power	-14.0 dBm
Extinction ratio	10 dB
Connector type	LC
Fiber type	Single-mode

📖 **NOTE**

The SFP optical module (FE) is applicable to only the 100M SFP optical interfaces or 100M/1000M SFP optical interfaces.

7.2 ESFP Optical Module (FE) Attributes

This section describes the attributes of an ESFP optical module (FE).

Table 7-2 ESFP optical module (FE) attributes

Item	Description				
Transmission distance	15 km	15 km (single-mode bidirectional fiber)	15 km (single-mode bidirectional fiber)	40 km	80 km
Center wavelength	1310 nm	Tx: 1310 nm Rx: 1550 nm	Tx: 1550 nm Rx: 1310 nm	1310 nm	1550 nm
Transmitting power	-15.0 dBm to -8.0 dBm	-15.0 dBm to -8.0 dBm	-15.0 dBm to -8.0 dBm	-5.0 dBm to 0 dBm	-5.0 dBm to 0 dBm

Item	Description				
Receiver sensitivity	-31.0 dBm	-32.0 dBm	-32.0 dBm	-34.0 dBm	-34.0 dBm
Overload power	-8.0 dBm	-8.0 dBm	-8.0 dBm	-10.0 dBm	-10.0 dBm
Extinction ratio	8.2 dB	8.5 dB	8.5 dB	10.0 dB	10.5 dB
Connector type	LC	LC/PC	LC/PC	LC	LC
Fiber type	Single-mode				

 NOTE

> The ESFP optical module (FE) is applicable to only the 100M SFP optical interfaces or 100M/1000M SFP optical interfaces.

7.3 ESFP Optical Module (GE) Attributes

This section describes the attributes of an ESFP optical module (GE).

Table 7-3 ESFP optical module (GE) attributes

Item	Description							
Transmission distance	0.5 km	10 km	10 km (single-mode bidirectional fiber)	10 km (single-mode bidirectional fiber)	40 km	40 km	80 km	100 km
Center wavelength	850 nm	1310 nm	Tx: 1310 nm Rx: 1490 nm	Tx: 1490 nm Rx: 1310 nm	1550 nm	1310 nm	1550 nm	1550 nm
Transmitting power	-9.5 dBm to -2.5 dBm	-9.0 dBm to -3.0 dBm	-9.0 dBm to -3.0 dBm	-9.0 dBm to -3.0 dBm	-5.0 dBm to 0 dBm	-5.0 dBm to 0 dBm	-2.0 dBm to 5.0 dBm	0 dBm to 5.0 dBm
Receiver sensitivity	-17.0 dBm	-20.0 dBm	-19.5 dBm	-19.5 dBm	-22.0 dBm	-23.0 dBm	-22.0 dBm	-30.0 dBm

Item	Description							
Overload power	0 dBm	-3.0 dBm	-3.0 dBm	-3.0 dBm	-3.0 dBm	-3.0 dBm	-3.0 dBm	-9.0 dBm
Extinction ratio	9.0 dB	9.5 dB	6.0 dB	6.0 dB	9.0 dB	9.0 dB	9.0 dB	9.0 dB
Connector type	LC							
Fiber type	Multi-mode	Single-mode						

📖 **NOTE**

The ESFP optical module (GE) is applicable to only the 1000M SFP optical interfaces or 100M/1000M SFP optical interfaces or GE SFP/10G SFP+ Optical Interface.

7.4 ESFP CWDM-SFP Optical Module

This section describes the attributes of an ESFP CWDM-SFP optical module.

Table 7-4 ESFP CWDM-SFP optical module attributes

Item	Description							
Transmission distance	80 km							
Center wavelength	1471 nm	1491 nm	1511 nm	1531 nm	1551 nm	1571 nm	1591 nm	1611 nm
Transmitting power	0 dBm to 5.0 dBm							
Receiver sensitivity	-28.0 dBm							
Overload power	-9.0 dBm							
Extinction ratio	8.2 dB							
Connector type	LC							
Fiber type	Single-mode							

NOTE

The ESFP CWDM-SFP optical module is applicable to only the 100M SFP optical interfaces or 1000M SFP optical interfaces or 100M/1000M SFP optical interfaces or GE SFP/10G SFP+ Optical Interface.