S3700HI Ethernet Switches

V200R001C00

Hardware Description

Issue 04

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About This Document

Intended Audience

This document provides an overall description of the S3700, details about each chassis and module, 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, module, 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 04 (2012-12-12)

Based on issue 03 (2012-10-20), the document is updated as follows:

The following information is modified:

- **1.5 System Configuration**

Changes in Issue 03 (2012-10-20)

Based on issue 02 (2012-05-23), the document is updated as follows:

The following information is modified:

- **1 Overview of the S3700**

Changes in Issue 02 (2012-05-23)

Based on issue 01 (2012-03-15), the document is updated as follows:

The following information is modified:

- **7 List of Optical Modules**

Changes in Issue 01 (2012-03-15)

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 S3700HI Ethernet switches are class A products. Customers should take preventative measures as the operating devices may cause radio interference.

The S3700HI switch (S3700 for short) is an enterprise network 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 enterprise networks. The S3700 functions as an access device or aggregation device on an enterprise network. The S3700 provides a 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:

● 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.

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.

1.2 S3700 Device Models and Naming Rules

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

Device Models

Currently, S3700 only has one model, as described in **Table 1-1**.

Table 1-1 Device models

Model	Maximum Number of 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

Figure 1-1 describes the naming rules of the S3700-26C-HI.

Figure 1-1 Naming rules

S3700-26C-HI
A B   C D E

Identifier	Description
A	Switch.
B	Product series. "37" indicates the S3700 series.
C	Maximum number of interfaces.
D	Uplink interface type: ● **C**: A device supports interface cards. There can be two uplink interfaces on an interface subcard.
E	Software version type: ● **HI**: advanced version, supporting high-performance Operation, Administration, and Maintenance (OAM) and built-in real-time clock (RTC)

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 dimensions of S3700-26C-HI are 442.0 mm x 220.0 mm x 43.6 mm (width x depth x height).

S3700 Appearance

Table 1-2 shows the front view of S3700.

Table 1-2 S3700 front view

Model	Image
S3700-26C-HI	
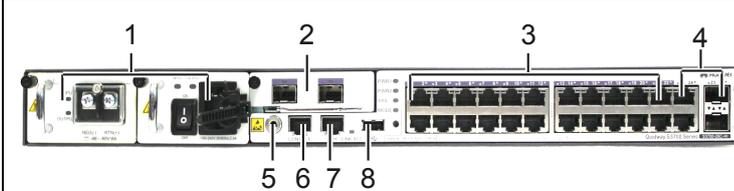
1. Power supply unit slot	2. Front subcard slot	3. Twenty-two 10/100BASE-T Ethernet interfaces	4. Two 1000M combo interfaces (10/100/1000BASE-T +100/1000BASE-X)
5. ESD jack	6. One console interface	7. One management interface	8. One USB interface

📖 **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. If the electrical interface and optical interface are connected simultaneously, the combo interface works as an optical interface.

Table 1-3 shows the rear view of S3700.

Table 1-3 S3700 rear view

Model	Image
S3700-26C-HI	

1. Ground screw	2. 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

1.5 System Configuration

Table 1-4 System configuration

Item	Parameter
Processor	S3700-26C-HI: 1GHz
Packet forwarding capacity (1 Gbps = 1.5 Mpps)	● S3700-26C-HI: 9.3 Mpps
DDR memory	512M for S3700-26C-HI
Flash Memory	64M for S3700-26C-HI

1.6 Physical Specifications

Table 1-5 Physical specifications

Item		Description
Dimensions (width x depth x height)		S3700-26C-HI: 442.0 mm x 220.0 mm x 43.6 mm
Maximum power (full configuration)		S3700-26C-HI: 50 W
Weight	Full configuration	$\leqslant$ 6.5 kg
	Empty chassis	$\leqslant$ 5 kg

Item		Description
DC input voltage	Rated voltage	–48V DC to –60V DC
	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	S3700HI: -5°C to 55°C (Altitude: 0 m to 1800 m) **NOTE** When the altitude is between 1800 m and 4000 m, the temperature limit degrades 1°C when the altitude increases 220 m.
	Storage temperature	-40°C to 70°C
Relative humidity		10%RH to 90%RH
Altitude	Long-term	S3700HI: 0 m to 4000 m
	Storage	0m to 2000m

2 Power Supply Unit

About This Chapter

⚠ **CAUTION**

- Only the power supply units of the same power can be used on an S3700.
- Power supply units are hot-swappable in the 1:1 scenario but it is strongly recommended to shutdown power supply unit before replacement in order to avoid electrical shock.
- 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.

Power Supply Configuration

On an S3700, 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.

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

The working mode of the S3700 DC power supply units is shown in **Figure 2-1**.

Figure 2-1 Working mode of DC power supply units

NEG: Power cable   RTN: Ground cable   GND: Grounding
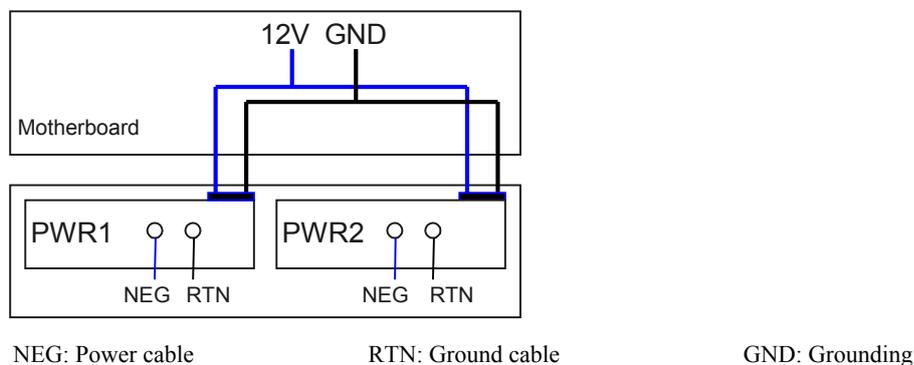
After the DC power is transmitted to the PWR module, the PWR module outputs 12 V voltage, and then the motherboard provides power for the entire device.

2.2.2 Working Mode of AC Power Supply Units

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

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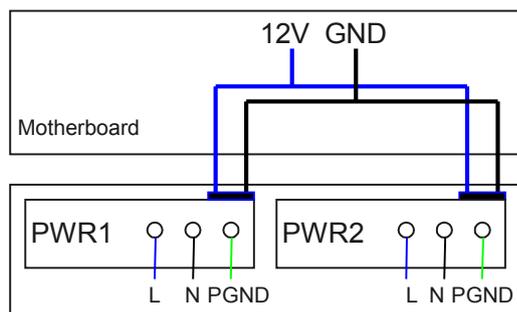
| L: Live line | N: Neutral wire | PGND: PGND cable | GND: Grounding |

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.

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.

2.3.2 Panel

Figure 2-3 shows the appearance of the 170 W DC power supply unit.

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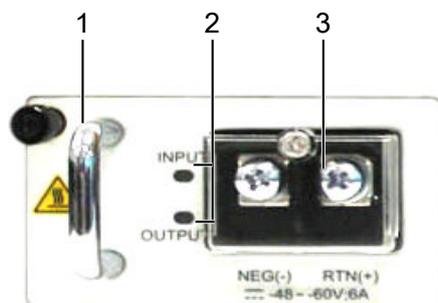
| 1. Handle | 2. Indicator | 3. DC jack |

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.
	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

Description	Parameter
Dimensions (width x depth x height)	60.0 mm x 195.4 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.

2.4.2 Panel

Figure 2-4 shows the appearance of the 170 W AC power supply unit.

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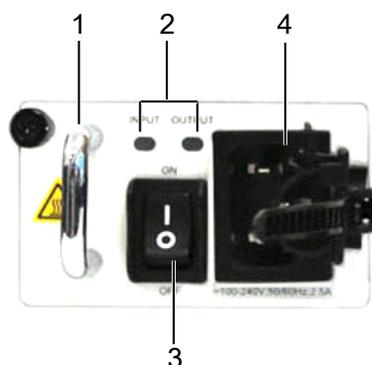
| 1. Handle | 2. Indicator | 3. Switch | 4. AC jack |

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 170 W AC power supply unit.

Table 2-4 Technical specifications of the 170 W AC power supply unit

Description	Parameter
Dimensions (width x depth x height)	60.0 mm x 195.4 mm x 40.0 mm
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.

This section describes the heat dissipation modes of the S3700.

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 operating temperature in 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	-
Intelligent heat dissipation	-
Forcible heat dissipation	● S3700-26C-HI

□ NOTE

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		● S3700-26C-HI
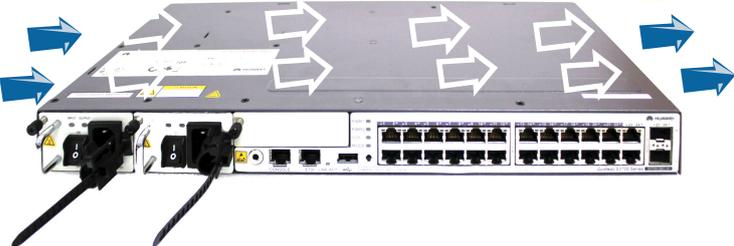
4 Interface Subcards

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.

4.1.1 Interface Subcard Types

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

Table 4-1 Interface subcards 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 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	1　2　3　4	There is only one row of interfaces on the interface subcard. These interfaces are numbered from left to right starting with 1.
2	2　4　6　8　10　12 / 1　3　5　7　9　11	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.
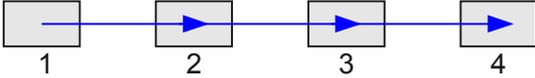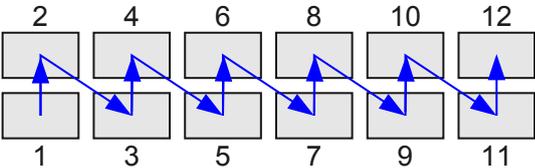
- If an interface does not reside on a front subcard and is the fifth interface from left to right and top to bottom, the interface is named Ethernet 0/0/5. If the stacking function is enabled and the stack ID is 1, the interface is named Ethernet 1/0/5.

- 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	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 (depth x width 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

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

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

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
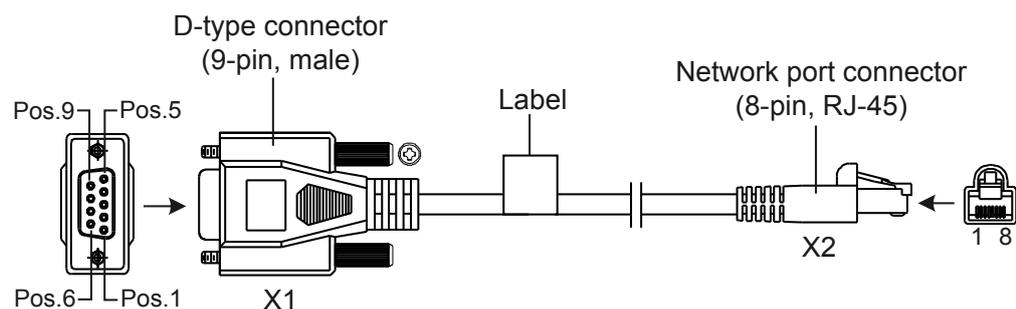
Pin Assignments

Table 5-1 describes the pin assignments of a console cable.

Table 5-1 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)

Connector	X2 (RJ45)	Direction	X1 (DB9)	Signal
	7	<---	4	Data Terminal Ready (DTR)
	8	<---	7	Request to Send (RTS)

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
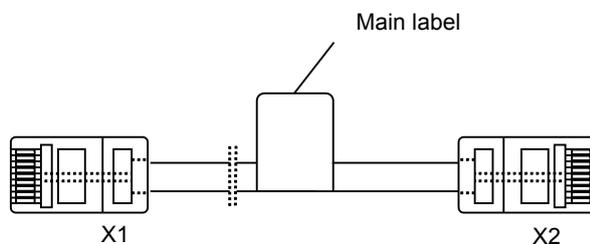
Pin Assignments

Table 5-2 describes the pin assignments of a straight-through cable.

Table 5-2 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

X1 Pin	Tip Color	X2 Pin
4	Blue	4
5	White and Blue	5
6	Green	6
7	White and brown	7
8	Brown	8

Table 5-3 describes the pin assignments of a crossover cable.

Table 5-3 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.

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 5-4 lists the classification of optical fibers.

Table 5-4 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 shows the appearance of a single mode fiber.

Figure 5-8 Single mode fiber with LC/PC connectors
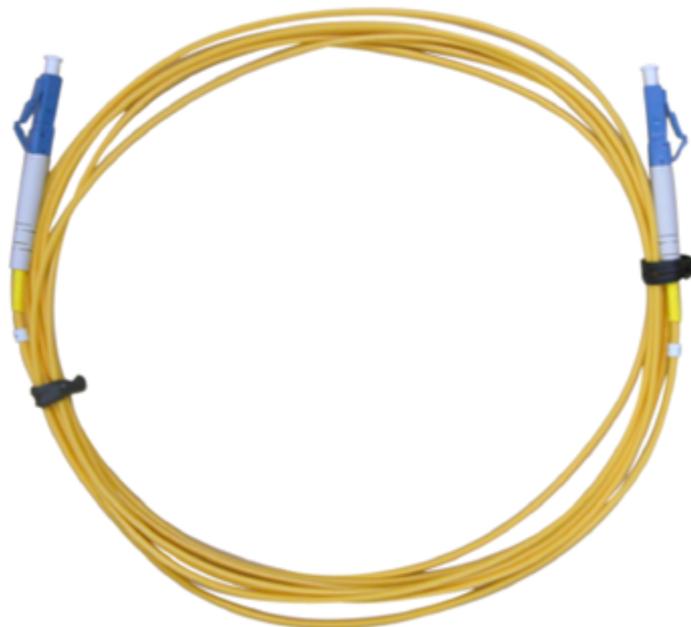
Figure 5-9 shows the appearance of a multimode fiber.

Figure 5-9 Multimode fiber with LC/PC connectors
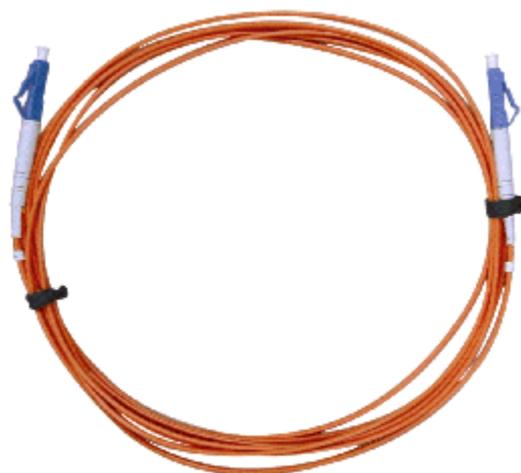
Pin Assignments

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

Table 5-5 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 5-6 lists the criteria for selecting optical fibers. **Table 5-7** lists common optical connectors.

Table 5-6 Fiber selection criterion

| Parameter	Criterion
Length	Survey result
Single mode or multimode	Optical module type ● The optical transmitting module of the multi-mode is connected to the multimode fiber. ● The optical transmitting module of the single-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 5-7 Common optical connectors

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

ST/PC optical connector	-

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.

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

Figure 6-1 S3700-26C-HI indicators
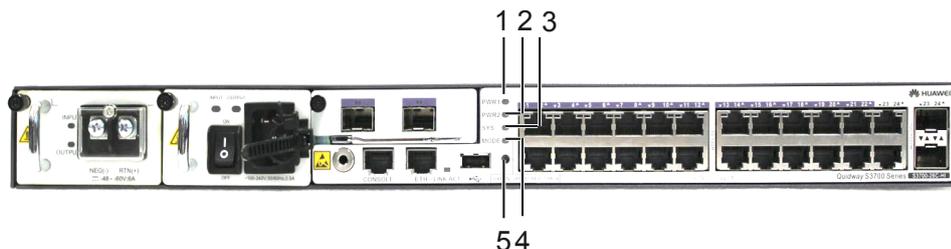
Table 6-1 Description of S3700-26C-HI indicators

No.	Indicator	Identifier	Status	Description
1	Power indicator	PWR1	Off	No power supply unit is installed, 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.

No.	Indicator	Identifier	Status	Description
			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.
			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 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.

As shown in **Figure 6-1**, the button marked "5" is the mode switching button. 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 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 6-2 Description of indicators in different modes

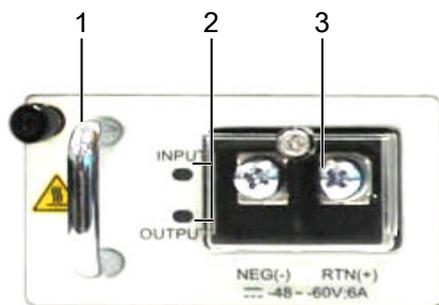| Display Mode	Status	Description
STAT	Off	The interface is not connected or has been shut down.
	Green	The interface is connected.
	Blinking green	The interface is sending or receiving data.
Speed	Off	The interface is not connected or has been shut down.
	Green	The interface is operating at 10/100 Mbit/s.
	Blinking green	The interface is operating at 1000 Mbit/s.

6.2 Power Indicators

This section describes the power indicators.

DC Power Indicators

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

Figure 6-2 Appearance of the 170 W DC power supply unit

1. Handle	2. Indicator	3. DC jack

Table 6-3 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.

AC Power Indicators

Figure 6-3 shows the appearance of the 170 W AC power supply unit.

Figure 6-3 Appearance of the 170 W AC power supply unit
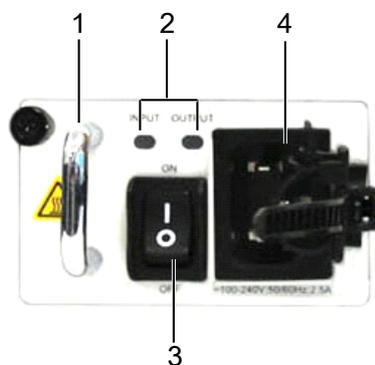
1. Handle   2. Indicator   3. Switch   4. AC jack

Table 6-4 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.

Name	Status	Description
	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.

7 List of Optical Modules

About This Chapter

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

📖 **NOTE**

Only Huawei certified optical modules can be installed on the S3700. The non-certified optical modules are unreliable and may affect services. Huawei will not be responbsible for fixing the issues caused by non-certified optical modules.

All the optical modules listed in the documentation are Huawei certified optical modules.

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

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

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

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

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	-19.0 dBm to -14.0 dBm
Receiver sensitivity	-30.0 dBm
Overload power	-14.0 dBm
Extinction ratio	10 dB
Connector type	LC
Fiber type	Multi-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 (bidirectional fiber)	15 km (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	-37.0 dBm	-37.0 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	10.5 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 (bidirectional fiber)	10 km (bidirectional fiber)	40 km (bidirectional fiber)	40 km (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	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	-2.0 dBm to 3.0 dBm	-2.0 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	-23.0 dBm	-23.0 dBm	-22.0 dBm	-23.0 dBm	-23.0 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	-3.0 dBm	-3.0 dBm	-9.0 dBm
Extinction ratio	9.0 dB	9.0 dB	6.0 dB	6.0 dB	9.0 dB	9.0 dB	8.5 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							

Item	Description
Connect or 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.