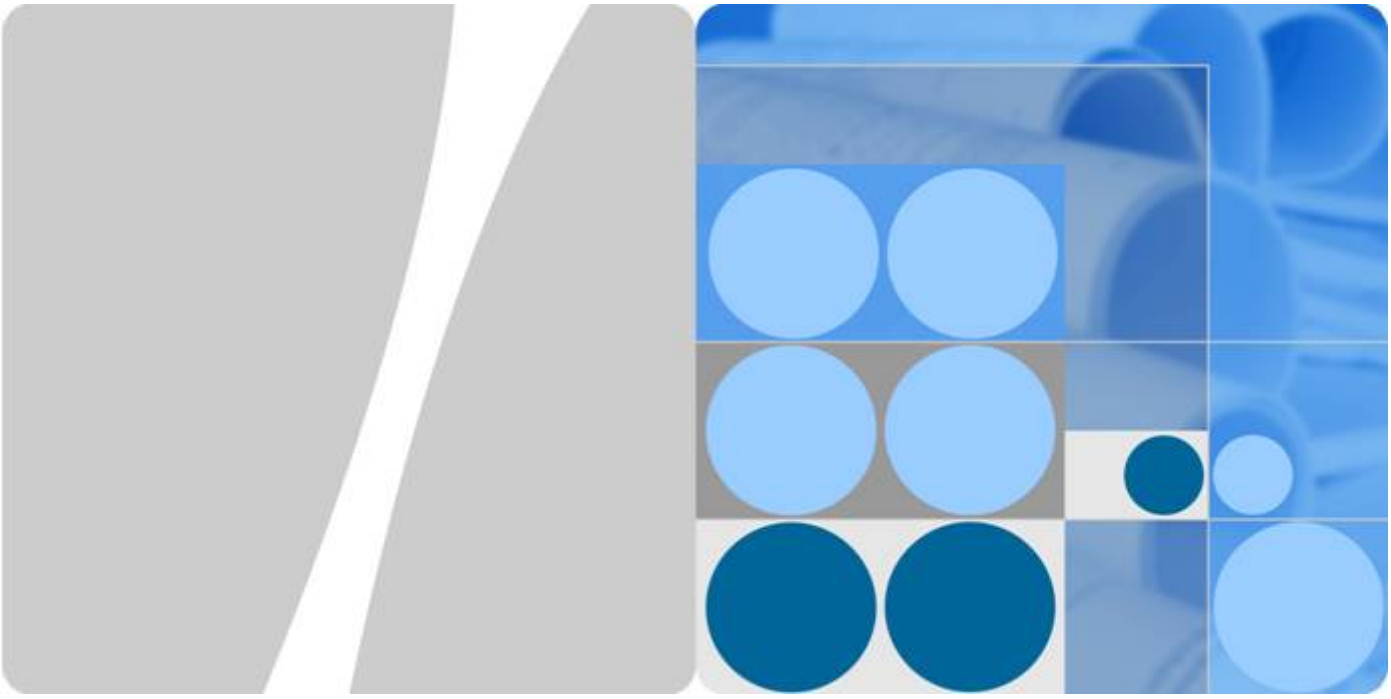

Quidway S6700 Series Ethernet Switches

V100R006C00

Hardware Description

Issue 01

Date 2011-07-15

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Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base
Bantian, Longgang
Shenzhen 518129
People's Republic of China

Website: http://www.huawei.com

Email: support@huawei.com

About This Document

Intended Audience

This document provides an overall description of the S6700, details about each chassis and board, cables available to the device, and lists of components.

This document describes hardware features of the S6700, 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 01 (2011-07-15)

Initial commercial release.

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1 Overview of the S6700

About This Chapter

1.1 Introduction
This section describes the characteristics of the S6700.

1.2 S6700 Device Models and Naming Rules
This section describes device models and naming rules of the S6700.

1.3 Device Structure
This section describes the structure of the S6700.

1.4 ESD Jack
This section describes the functions of the ESD jack on the S6700.

1.5 System Configuration

1.6 Physical Specifications

1.1 Introduction

This section describes the characteristics of the S6700.

1.1.1 Positioning

WARNING

The Quidway S6700 Ethernet switches are class A products. Customers should take preventative measures as the operating devices may cause radio interference.

The Quidway S6700 switch (S6700 for short) is an enterprise networks access device that provides access and data transport functions. The S6700 is developed by Huawei to meet the requirements for reliable access and high-quality transmission of multiple services on an enterprise networks and data center. The S6700 functions as the access device of the enterprise networks or functions as a high-speed access device of the data center. The S6700 provides large capacity, high port density, and cost-effective packet forwarding capabilities. The S6700 provides all-10GE interfaces. The S6700 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 S6700 saves energy in the following ways:

- It uses low noise fans that adjust their speed automatically, reducing system noise and fan power consumption.
- 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 S6700 uses the Huawei patented surge protection technique. This technique protects devices against lightning in terrible weather and increases device security.

1.2 S6700 Device Models and Naming Rules

This section describes device models and naming rules of the S6700.

Device Models

To meet diverse customer requirements, the S6700 provides a variety of models. Table 1-1 lists these device models.

You can select a device model as required.

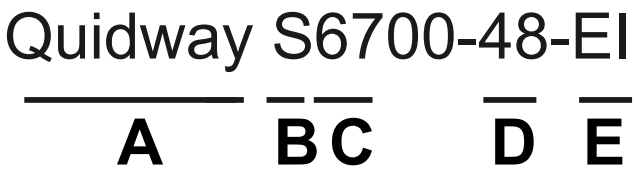
Table 1-1 Device models

Product Series	Model	Maximum Number of Interfaces
S6700	S6700-24-EI	Twenty-four 10G SFP+ optical interfaces
	S6700-48-EI	Forty-eight 10G SFP+ optical interfaces

Naming Rules

The following are the naming rules of the S6700-24-EI.

Figure 1-1 Naming rules



Identifier	Description
A	Product brand.
B	Switch.
C	Product series. "67" indicates the S6700 series.
D	Maximum number of interfaces. The number of interfaces on an S6700 can be 24 or 48, depending on the device model.
E	Software version type: ● **EI**: enhanced version, supporting enhanced features

1.3 Device Structure

This section describes the structure of the S6700.

The S6700 Ethernet switches adopt an integrated hardware platform. An S6700 consists of the chassis, power supply unit, fan, switch control unit (SCU), and interface subcard. The width of

an S6700 complies with industry standards, and the S6700 can be installed in an IEC297 cabinet or an ETSI cabinet.

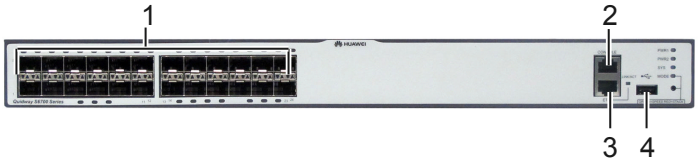
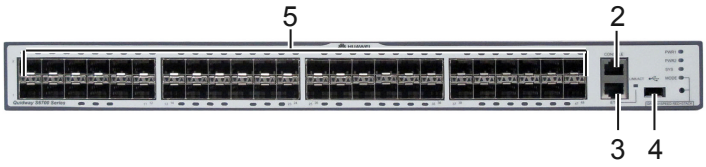
NOTE

The chassis of the is 1 U (1 U = 44.45 mm) high and its dimensions are 442.0 mm x 420.0 mm x 43.6 mm (width x depth x height).

S6700 Appearances

Table 1-2 shows the front views of S6700.

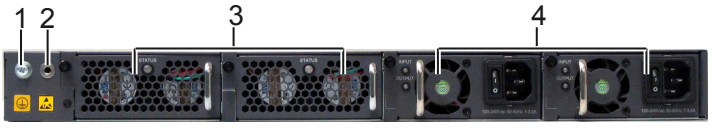
Table 1-2 S6700 front views

Model	Image
S6700-24-EI	
S6700-48-EI	

1. Twenty-four 10GE BASE-X Ethernet optical interfaces	2. One console interface	3. One management interface
4. One USB interface	5. Forty-eight 10GE BASE-X Ethernet optical interfaces	

Table 1-3 shows the rear view of S6700.

Table 1-3 S6700 rear view

Model	Image
S6700-24-EI S6700-48-EI	

1. Ground screw	2. ESD jack	3. Fan module	4. Power supply unit

1.4 ESD Jack

This section describes the functions of the ESD jack on the S6700.

The S6700 has an electromagnetic discharge (ESD) jack on the chassis.

When installing the S6700, 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	Dominant frequency: 1GHz
Switching capacity	● S6700-24-EI: 480 Gbit/s ● S6700-48-EI: 960 Gbit/s
Packet forwarding capacity	● S6324-EI: 357 Mpps ● S6348-EI: 714.2 Mpps
DDR memory	512 MB
Flash Memory	64 MB

1.6 Physical Specifications

Table 1-5 Physical specifications

Item	Description
Dimensions (width x depth x height)	● S6700-24-EI: 442.0 mm×420.0 mm×43.6 mm ● S6700-48-EI: 442.0 mm×420.0 mm×43.6 mm
Maximum power (full configuration)	● S6700-24-EI: 165 W ● S6700-48-EI: 237 W

Item		Description
Weight	Full configuration	≤ 6.5 kg
	Empty chassis	≤ 5 kg
AC input voltage	Rated voltage	100V AC to 240V AC
	Maximum voltage	90V AC to 264V AC
Temperature	operating temperature	-5°C to 50°C (Altitude: 0 m to 1800 m) **NOTE** When the altitude is between 1800 m and 4000 m, the temperature limit degrades 1℃ when the altitude increases 220 m.
	Storage temperature	-40°C to 70°C
Relative humidity		10%RH to 90%RH
Altitude		0 m to 3000 m

2 Power Supply Unit

About This Chapter

This chapter describes the AC and DC power supply units of the S6700.

CAUTION

- Only the power supply units of the same power can be used on an S6700.
- Power off the S6700 before removing the power supply units. Do not operate the power supply units when the S6700 is running.
- Before powering off the S6700, shut down all its power supply units.

2.1 Power Supply Configuration

This section describes the power supply configuration on the S6700.

Power Supply Configuration

On an S6700, 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.

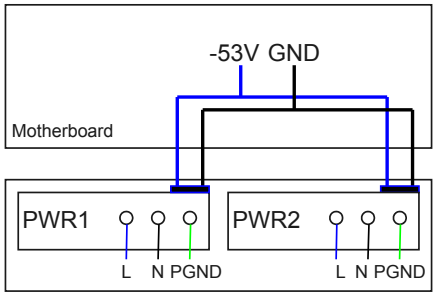
2.2 Power Supply Unit Working Mode

This section describes the working mode of S6700 power supply units.

2.2.1 Working Mode of AC Power Supply Units

The working mode of S6700 AC power supply units is shown in **Figure 2-1**.

Figure 2-1 Working mode of AC power supply units



L: Live line N: Neutral wire PGND: PGND cable RTN: Ground cable

After the AC power is transmitted to the PWR module, the PWR module outputs -53 V voltage, and then the motherboard provides power for the entire device.

2.3 AC Power Supply Units

This section describes the functions, appearance, switch, indicators, and technical specifications of the S6700 AC power supply unit.

2.3.1 Function Overview

The AC power supply unit provides the EMC filtering function and protects the device against:

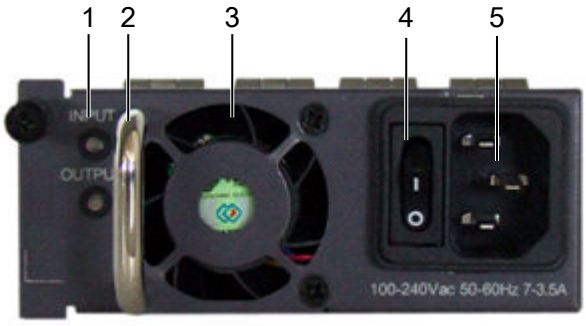
- Output overcurrent
- Output overvoltage

- Output undervoltage
- Input overvoltage
- Input undervoltage
- Overtemperature
- Short circuit
- Lightning

2.3.2 Panel

The S6700 uses 500 W power supply unit, as shown in **Figure 2-2**.

Figure 2-2 Appearance of the 500 W AC power supply unit



1. Indicator 2. Handle 3. Fan 4. Switch 5. AC jack

Table 2-1 describes the meanings of the indicator.

Table 2-1 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.

Name	Status	Description
	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.

2.3.3 Technical Specifications

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

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

Item	500 W Power Supply Units
Dimensions (width x depth x height)	100 mm x 220 mm x 43 mm
Weight	1 kg
Rated input voltage	100 V AC to 240 V AC, 50/60 Hz
Maximum input voltage	90 V AC to 264 V AC, 47 Hz to 63 Hz
Maximum input current	7 A to 3.5 A
Maximum output current	● 12 V: 10 A ● -53.5 V: 7.11 A
Maximum output power	● 12 V: 120 W ● -53.5 V: 380 W Total: 500 W

3 Heat Dissipation System

About This Chapter

This chapter describes the heat dissipation system of the S6700.

3.1 Heat Dissipation Mode

This section describes the heat dissipation modes of the S6700.

The heat dissipation system ensures that the S6700 operates at a normal temperature. The operating temperature of the S6700 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 S6700 models corresponding to each heat dissipation mode.

Table 3-1 S6700 heat dissipation modes

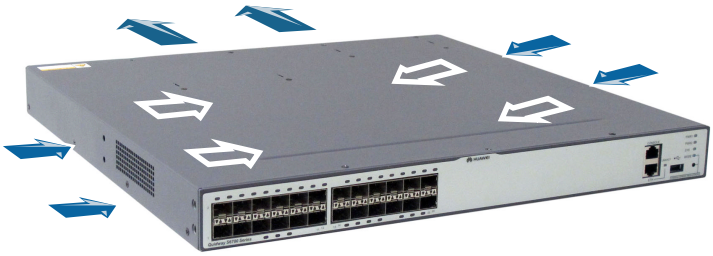
Heat Dissipation Mode	Model
Natural heat dissipation	-
Intelligent heat dissipation	-
Forcible heat dissipation	● S6700-24-EI ● S6700-48-EI

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 S6700 chassis.

No.	Air Circulation	Model
1		● S6700-24-EI ● S6700-48-EI

3.2 Fan Module

This section describes the appearance and technical specifications of the S6700 fan module.

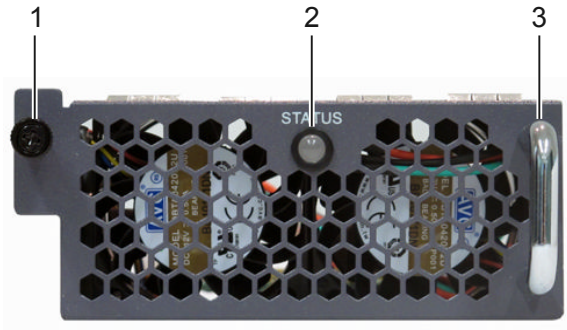
Appearance

The S6700 fan module consists of two fans. The fans can be replaced when the device is operating.

The fan module can be installed on S6700-24-EI and S6700-48-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 S6700.

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 S6700 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 Cables

About This Chapter

4.1 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 4-1 shows the appearance of an AC power cable.

Figure 4-1 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 4-1 lists the specifications of an AC power cable.

Table 4-1 Specifications of an AC power cable

Item	Description
Cable type	External power cable
Function	250 V AC/10 A complying with international standard

Item	Description
Connector 1	PI-straight-male
Connector 2	C13-straight-female
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 x 1.0 mm^2
Fireproof level	GB18380.1

4.2 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 4-2 shows the appearance of a ground cable.

Figure 4-2 Appearance of a ground cable

Specifications

Table 4-2 lists the specifications of a ground cable.

Table 4-2 Specifications of a ground cable

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

4.3 Console Cables

A console cable is used to debug or maintain a local S6700.

Applications

A console cable connects the console port of the S6700 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.

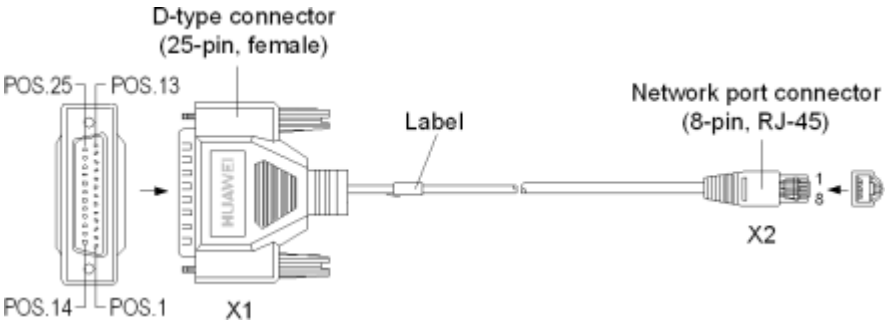
A console cable connects the S6700 and terminal as follows:

- The 8-pin RJ45 connector is inserted into the S6700 console port.
- The DB9 connector is inserted into the terminal serial port.

Appearance and Structure

Figure 4-3 shows the structure of a console cable.

Figure 4-3 Structure of a console cable



Pin Assignments

Table 4-3 describes the pin assignments of a console cable.

Table 4-3 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 4-4 lists the specifications of a console cable.

Table 4-4 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 ≈ 0.08 mm^2)
Pin	8-pin
Fireproof level	CM

4.4 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

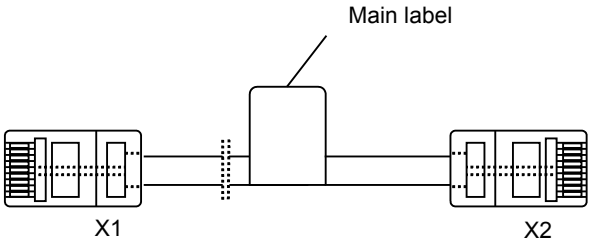
- Generally, a network cable is a standard unshielded network cable that uses RJ45 connectors.
- The appearances of the straight through cable and the crossover cable are the same.

Figure 4-4 shows the appearance of a network cable.

Figure 4-4 Appearance of a network cable

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

Figure 4-5 Structure of a network cable



Pin Assignments

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

Table 4-5 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 4-6 describes the pin assignments of a crossover cable.

Table 4-6 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

X1 Pin	Tip Color	X2 Pin
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 4-7 lists the specifications of a network cable.

Table 4-7 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

4.5 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 4-8 lists the classification of optical fibers.

Table 4-8 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 4-6 and Figure 4-7 show the appearances of a single mode fiber.

Figure 4-6 Single mode fiber with LC/PC connectors

Figure 4-7 Single mode fiber with SC/PC connectors

Figure 4-8 shows the appearance of a multimode fiber.

Figure 4-8 Multimode fiber with LC/PC connectors

Pin Assignments

Table 4-9 describes the pin assignments of an optical fiber.

Table 4-9 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

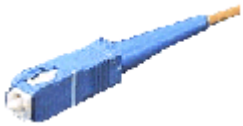
Table 4-10 lists the criteria for selecting optical fibers. Table 4-11 lists common optical connectors.

Table 4-10 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 4-11 Common optical connectors

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

5 List of Indicators

About This Chapter

This chapter describes the status and meanings of the indicators on the S6700, including the indicators for subcards, fan module, and power supply units.

5.1 Indicators on the Front Panel

This section describes the indicators on the S6700 front panel.

Indicators of S6700 Switch

In the following description, the indicators of S6700-24-EI are described as an example.

Figure 5-1 S6700-24-EI indicators

Table 5-1 Description of S6700-24-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 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 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.

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

As shown in **Figure 5-1**, 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 turns red and the related interface indicator represents the stack status. 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.

NOTE

PWR1 is at the side of the chassis.

Table 5-2 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 speed is 1000 Mbit/s.
	Blinking green	The interface speed is 10 Gbit/s.
Stack	Off	The stack ID of the member switch is not the number of the interface in the off state.

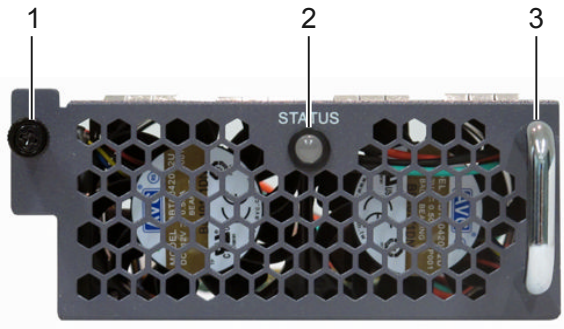
Display Mode	Status	Description
	Green	The device is a not a command switch: ● If the indicator of an interface is always on, the number of this interface is the stack ID of the device. ● If the first nine interface indicators of the device are always on, the stack ID of the device is 0.
	Blinking green	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.

5.2 Fan Indicators

This section describes the fan indicators.

The S6700 fan module consists of two fans. The fans can be replaced when the device is operating.

Figure 5-2 Fan module appearance



1. Captive screw 2. Indicator 3. Handle

Table 5-3 describes the fan indicators.

Table 5-3 Fan indicator description

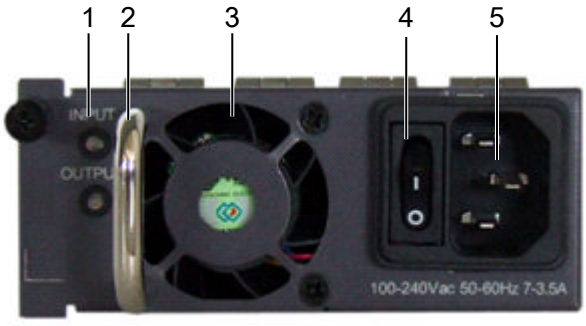
Name	Color	Description
STATUS	Blinking green (1 Hz)	The fan module is operating properly.
	Blinking red (1 Hz)	The fan module is faulty.

5.3 Power Indicators

This section describes the power indicators.

AC Power Indicators

Figure 5-3 Appearance of the 500 W AC power supply unit



1. Indicator 2. Handle 3. Fan 4. Switch 5. AC jack

Table 5-4 describes the AC power indicators.

Table 5-4 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.

Name	Status	Description
	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.

6 List of Optical Modules

About This Chapter

This section describes the attributes of optical modules supported by the S6700.

6.1 ESFP Optical Module (GE) Attributes

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

Table 6-1 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
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.

6.2 ESFP CWDM-SFP Optical Module

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

Table 6-2 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.

6.3 XFP Optical Module (10GE) Attributes

This section describes the attributes of an XFP optical module (10GE).

Table 6-3 XFP optical module (10GE) attributes

Item	Description			
Transmission distance	0.3 km	10 km	40 km	80 km
Center wavelength	850 nm	1310 nm	1550 nm	1550 nm
Transmitting power	-7.3 dBm to -1.0 dBm	-6.0 dBm to -1.0 dBm	-4.7 dBm to 4.0 dBm	0 dBm to 4.0 dBm

Item	Description			
Receiver sensitivity	-7.5 dBm	-14.4 dBm	-14.0 dBm	-24.0 dBm
Overload power	-1.0 dBm	0.5 dBm	-1.0 dBm	-7.0 dBm
Extinction ratio	3.0 dB	6.0 dB	8.2 dB	9.0 dB
Connector type	LC			
Fiber type	Multi-mode	Single-mode		

6.4 SFP+ Optical Module (10GE) Attributes

This section describes the attributes of an SFP+ optical module (10GE).

Table 6-4 SFP+ optical module (10GE) attributes

Item	Description			
Transmission distance	0.22 km	0.3 km	10 km	40 km
Center wavelength	1310 nm	850 nm	1310 nm	1550 nm
Transmitting power	-6.5 dBm to -0.5 dBm	-7.3 dBm to -1.0 dBm	-8.2 dBm to 0.5 dBm	-4.7 dBm to 4.0 dBm
Receiver sensitivity	-6.5 dBm	-11.1 dBm	-12.6 dBm	-14.1 dBm
Overload power	1.5 dBm	-1.0 dBm	0.5 dBm	-1.0 dBm
Extinction ratio	3.5 dB	3.0 dB	3.5 dB	3.0 dB
Connector type	LC			
Fiber type	Multi-mode		Single-mode	

NOTE

The SFP+ optical modules (10GE) are applicable to only 10G SFP+ optical interfaces.

Only S6700-24-EI and S6700-48-EI support the 0.22 km SFP+ optical module.