

Huawei X7 Series Switches

S6700 series Datasheet (Detailed Version)

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1 Introduction

The S6700 series switches (S6700s) are next-generation 10G box switches. The S6700 can function as an access switch in an Internet data center (IDC) or a core switch on a campus network.

The S6700 has industry-leading performance and provides up to 24 or 48 line-speed 10GE ports. It can be used in a data center to provide 10 Gbit/s access to servers or function as a core switch on a campus network to provide 10 Gbit/s traffic aggregation. In addition, the S6700 provides a wide variety of services, comprehensive security policies, and various QoS features to help customers build scalable, manageable, reliable, and secure data centers. The S6700 is available in Five models: S6700-48-EI, S6700-24-EI, S6720-30C-EI-24S, S6720-54C-EI-48S & S6720S-26Q-EI-24S.






S6720S-26Q-EI-24S is a compact switch with 220mm depth , perfectly suitable in a 300 mm deep cabinet, saving installation space for customers.

2 Product Overview

2.1 Product Models

Table 2-1 lists all models of S6700 appearances and brief description.

Table 2-1 S6700 models and description

Appearance	Description
 <p>S6700-48-EI</p>	<ul style="list-style-type: none"> ● Forty-eight GE SFP or 10 GE SFP+ ports ● Double swappable AC/DC power supplies ● USB port ● Forwarding performance: 720 Mpps ● Switching capacity: 960 Gbps
 <p>S6700-24-EI</p>	<ul style="list-style-type: none"> ● Twenty-four GE SFP or 10 GE SFP+ ports ● Double swappable AC/DC power supplies ● USB port ● Forwarding performance: 360 Mpps ● Switching capacity: 960 Gbps
Appearance	Description
 <p>S6720-30C-EI-24S-AC S6720-30C-EI-24S-DC</p>	<ul style="list-style-type: none"> ● 24 × 10GE SFP+, 2 × 40 GE QSFP+ ports ● One extended slot for 4 × 40GE QSFP+ interface card ● Double hot swappable AC/DC power supplies ● Forwarding performance: 720 Mpps ● Switching capacity: 2.56 Tbps
 <p>S6720-54C-EI-48S-AC S6720-54C-EI-48S-DC</p>	<ul style="list-style-type: none"> ● 48 × 10GE SFP+, 2 × 40 GE QSFP+ ports ● One extended slot for 4 × 40GE QSFP+ interface card ● Double hot swappable AC/DC power supplies ● Forwarding performance: 1080 Mpps ● Switching capacity: 2.56 Tbps
 <p>S6720S-26Q-EI-24S-AC S6720S-26Q-EI-24S-DC</p>	<ul style="list-style-type: none"> ● 24 × 10GE SFP+, 2 × 40GE QSFP+ ports ● Double hot swappable AC/DC power supplies ● Forwarding performance: 480 Mpps ● Switching capacity: 2.56 Tbps

2.2 Interface Card

The S6720 provides 4 × 40GE QSFP+ interface card for upstream connections. The card support hot swap and ports on the card can be used as stack ports.

Figure 2-1 4×40GE QSFP+ interface card

The card can be installed in the rear extended slot on the S6720-30C-EI-24S or S6720-54C-EI-48S.

Table 2-2 S6720 Interface Card

Card Model	Name	Applied Switch Model
ES5D21Q04Q01	4×40GE QSFP+ interface card	S6720-30C-EI-24S-AC S6720-30C-EI-24S-DC S6720-54C-EI-48S-AC S6720-54C-EI-48S -DC

3 Product Characteristics and Advantages

Huawei S6700 series switches have the following characteristics.

- Large-capacity, high-density, 10 Gbit/s access

To provide sufficient bandwidth for users, many servers, particularly those in data centers, use 10G network adapters. The S6700 can be used in data centers to provide high forwarding performance and 10GE ports. The S6700 has the high density of all 10GE ports and the large switching capacity. Each S6700 provides a maximum of 48 line-speed 10GE ports.

S6700 ports support 1GE and 10GE access and can identify optical module types, maximizing the return on investment and allowing users to flexibly deploy services.

The S6700 has a large buffering capacity and uses an advanced buffer scheduling mechanism to ensure non-block transmission when data center traffic volume is high.

- **Comprehensive security policies**

The S6700 provides multiple security measures to defend against Denial of Service (DoS) attacks, as well as attacks against networks or users. DoS attack types include SYN Flood attacks, Land attacks, Smurf attacks, and ICMP Flood attacks. Attacks to networks refer to STP BPDU/root attacks. Attacks to users include bogus DHCP server attacks, man-in-the-middle attacks, IP/MAC spoofing attacks, and DHCP request flood attacks. DoS attacks that change the CHADDR field in DHCP packets are also attacks against users.

The S6700 supports DHCP snooping, which generates user binding entries based on users' access interfaces, MAC addresses, IP addresses, IP address leases, and VLAN IDs. DHCP snooping discards invalid packets that do not match any binding entries, such as ARP spoofing packets and IP spoofing packets. This prevents hackers from using ARP packets to initiate attacks on campus networks. The interface connected to a DHCP server can be configured as a trusted interface to protect the system against bogus DHCP server attacks.

The S6700 supports strict ARP learning, which prevents ARP spoofing attacks that exhaust ARP entries. The S6700 also provides an IP source check to prevent DoS attacks caused by MAC address spoofing, IP address spoofing, and MAC/IP spoofing. URPF, provided by the S6700, authenticates packets by checking the packet transmission path in reverse, which can protect the network against source address spoofing attacks.

The S6700 supports centralized MAC address authentication and 802.1x authentication. The S6700 authenticates users based on statically or dynamically bound user information such as the user name, IP address, MAC address, VLAN ID, access interface, and flag indicating whether antivirus software is installed. VLANs, QoS policies, and ACLs can be dynamically applied to users.

The S6700 can limit the number of MAC addresses learned on an interface to prevent attackers from exhausting MAC address entries by using bogus source MAC addresses. This function minimizes the packet flooding that occurs when users' MAC addresses cannot be found in the MAC address table.

- **Higher reliability mechanism**

The S6700 supports redundant power supplies. You can choose a single power supply or use two power supplies to ensure device reliability. With two fans, the S6700 has a longer MTBF time than its counterpart switches.

The S6700 supports MSTP multi-process that enhances the existing STP, RSTP, and MSTP implementation. This function increases the number of MSTPs supported on a network. It also supports enhanced Ethernet reliability technologies such as Smart Link and RRPP, which implement millisecond-level protection switchover and ensure network reliability. Smart Link and RRPP both support multi-instance to implement load balancing among links, optimizing bandwidth usage.

The S6700 supports the enhanced trunk (E-Trunk) feature. When a CE is dual-homed to two S6700s (PEs), E-Trunk protects the links between the CE and PEs and implements backup between the PEs. E-trunk enhances link reliability between devices.

The S6700 supports the Smart Ethernet Protection (SEP) protocol, a ring network protocol applied to the link layer on an Ethernet network. SEP can be used on open ring networks and can be deployed on upper-layer aggregation devices to provide fast switchover (within 50 ms), ensuring the non-stop transmission of services. SEP features simplicity, high reliability, fast switchover, easy maintenance, and flexible topology, facilitating network planning and management.

The S6700 supports Ethernet Ring Protection Switching (ERPS), also referred to as G.8032. As the latest ring network protocol, ERPS was developed based on traditional Ethernet MAC and bridging functions and uses mature Ethernet OAM function and a ring automatic protection switching (R-APS) mechanism to implement millisecond-level protection switching. ERPS supports various services and allows flexible networking, helping customers build a network with lower OPEX and CAPEX.

The S6700 supports VRRP. Two S6700s can form a VRRP group to ensure nonstop reliable communication. Multiple equal-cost routes to upstream devices can be configured on the S6700 to provide route redundancy. When an active route is unreachable, traffic is switched to a backup route.

- **Enhanced QoS control mechanism**

The S6700 implements complex traffic classification based on packet information, such as the 5-tuple, IP preference, ToS, DSCP, IP protocol type, ICMP type, TCP source port, VLAN ID, Ethernet protocol type, and CoS. ACLs can be applied to inbound or outbound directions on an interface. The S6700 supports a flow-based two-rate three-color CAR. Each port supports eight priority queues, multiple queue scheduling algorithms, such as WRR, DRR, SP, WRR+SP, and DRR+SP, and WRED, a congestion avoidance algorithm. All of these features ensure high-quality voice, video, and data services.

- **High scalability**

The S6700 supports the iStack function, which allows switches that are far apart to form a stack. A port on the S6700 can be configured as a stack port using a command for flexible stack deployment. The distance between stacked switches is further increased when the switches are connected with optical fibers. A stack is easier to expand, is more reliable, and has a higher performance rate than a single switch. New member switches can be added to a stack without interrupting services when the system capacity needs to be increased or a member switch fails. Compared with the stacking of chassis-shaped switches, the iStack function can increase system capacity and port density without being restricted by hardware. Multiple devices in a stack can function as one logical device, which simplifies network management and configuration.

- **Convenient management**

The S6700 supports automatic configuration, plug-and-play, deployment using a USB flash drive, and batch remote upgrades. These capabilities simplify device management and maintenance and reduce maintenance costs.

The S6700 supports SNMP v1/v2/v3 and provides flexible methods for managing devices. Users can manage the S6700 using the CLI, Web NMS, Telnet, and HGMP. The NQA function assists users with network planning and upgrades. In addition, the S6700 supports NTP, SSH v2, HWTACACS, RMON, log hosts, and port-based traffic statistics.

The S6700 supports GARP VLAN Registration Protocol (GVRP), which dynamically distributes, registers, and propagates VLAN attributes to reduce network administrator workloads and ensure correct VLAN configuration. In a complex network topology, GVRP simplifies VLAN configuration and reduces network communication faults caused by incorrect VLAN configuration.

The S6700 supports Multiplex VLAN (MUX VLAN). MUX VLAN isolates Layer 2 traffic between interfaces in a VLAN. Interfaces in a subordinate separate VLAN can communicate with ports in the principal VLAN, but cannot communicate with each other. MUX VLAN is typically used on an enterprise intranet to isolate user interfaces from each other while still allowing them to communicate with server interfaces. This function prevents

communication between network devices connected to certain interfaces or interface groups, but allows these devices to communicate with the default gateway.

The S6700 supports BFD, which provides millisecond-level fault detection for protocols, such as OSPF, IS-IS, VRRP, and PIM, to improve network reliability. Complying with IEEE 802.3ah and 802.1ag, the S6700 supports point-to-point Ethernet fault management and can detect faults in the last mile of an Ethernet link to users. Ethernet OAM improves Ethernet network management and maintenance capabilities and ensures a stable network.

● Various IPv6 features

The S6700 supports IPv4/IPv6 dual stack and can migrate from an IPv4 network to an IPv6 network. S6700 hardware supports IPv4/IPv6 dual stack, IPv6 over IPv4 tunnels (including manual tunnels, 6to4 tunnels, and ISATAP tunnels), and Layer 3 line-speed forwarding. The S6700 can be deployed on IPv4 networks, IPv6 networks, or networks that run both IPv4 and IPv6. This makes networking flexible and enables a network to migrate from IPv4 to IPv6.

The S6700 supports various IPv6 routing protocols, including RIPng and OSPFv3. The S6700 uses the IPv6 Neighbor Discovery Protocol (NDP) to manage packets exchanged between neighbors. It also provides a path MTU (PMTU) discovery mechanism to select a proper MTU on the path from the source to the destination, optimizing network resource utilization and obtaining the maximum throughput.

4 Product Specifications

4.1 Functions and Features

Table 4-1 lists the functions and features available on the S6700.

Item	S6700-24-EI	S6700-48-EI
Port	24* GE SFP/10 GE SFP+ ports	48* GE SFP/10 GE SFP+ ports
MAC address table	128 K MAC address entries MAC address learning and aging Static, dynamic, and blackhole MAC address entries	

Item	S6700-24-EI	S6700-48-EI
	Packet filtering based on source MAC addresses	
VLAN	4 K VLANs Guest VLAN and voice VLAN VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports 1:1 and N:1 VLAN Mapping QinQ and selective QinQ	
IPv4 routing	Static routing, RIPv1, RIPv2, ECMP, and URPF OSPF, IS-IS, and BGP VRRP Policy-based routing Routing policy	
IPv6 routing	Static route RIPng OSPFv3 BGP4+	
IPv6 features	Neighbor Discovery (ND) PMTU IPv6 ping, IPv6 tracert, and IPv6 Telnet 6to4 tunnel, ISATAP tunnel, and manually configured tunnel ACLs based on the source IPv6 address, destination IPv6 address, Layer 4 ports, or protocol type MLD v1/v2 snooping	
multicast	Static Layer 2 multicast MAC address MAC-based multicast forwarding IGMP snooping and IGMP fast leave Multicast VLAN MLD snooping IGMP proxy Controllable multicast Port-based multicast traffic statistics IGMP v1/v2/v3 PIM-SM, PIM-DM, and PIM-SSM MSDP	
QoS/ACL	Rate limiting on packets sent and received by an interface Packet redirection Port-based traffic policing and two-rate three-color CAR Eight queues on each port WRR, DRR, SP, WRR+SP, and DRR+SP queue scheduling algorithms Re-marking of the 802.1p priority and DSCP priority Packet filtering at Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, port number, protocol type, and VLAN ID Rate limiting in each queue and traffic shaping on ports	
MPLS	MPLS L3VPN MPLS L2VPN (VPWS/VPLS)	

Item	S6700-24-EI	S6700-48-EI
features	MPLS-TE MPLS QoS	
Reliability	STP(IEEE 802.1d), RSTP(IEEE 802.1w), and MSTP(IEEE 802.1s) BPDU protection, root protection, and loop protection RRPP ring topology and RRPP multi-instance Smart Link tree topology and Smart Link multi-instance, providing the millisecond-level protection switchover SEP ERPS(G.8032) BFD for OSPF, BFD for IS-IS, BFD for VRRP, and BFD for PIM E-Trunk	
Security	User privilege management and password protection DoS attack defense, ARP attack defense, and ICMP attack defense Binding of the IP address, MAC address, interface, and VLAN Port isolation, port security, and sticky MAC Blackhole MAC address entries Limit on the number of learned MAC addresses 802.1x authentication and limit on the number of users on an interface AAA authentication, RADIUS authentication and TACACS authentication SSH v2.0 Hypertext Transfer Protocol Secure (HTTPS) CPU defense Blacklist and whitelist	
Management and maintenance	Stacking (using service ports as stack ports) MAC Forced Forwarding (MFF) Virtual cable test Ethernet OAM (IEEE 802.3ah and 802.1ag) Local port mirroring and remote switched port analyzer (RSPAN), allowing an observing port to forward packets Remote configuration and maintenance using Telnet SNMP v1/v2/v3 RMON Web NMS HGMP System logs and alarms of different levels GVRP MUX VLAN sFlow	
Operating environment	Operating temperature: 0°C–45°C (long term); -5°C–50°C (short term) Relative humidity: 10%–90% (non-condensing)	
Input voltage	AC: Rated voltage range: 100 V to 240 V AC, 50/60 Hz Maximum voltage range: 90 V to 264 V AC, 50/60 Hz DC: Rated voltage range: -48 V to -60 V, DC Maximum voltage range: -36 V to -72 V, DC	

Item	S6700-24-EI	S6700-48-EI
Dimensions (W x D x H)	442 mm x 420 mm x 43.6 mm	
Power consumption	153W	240W

Table 4-1 Functions and features available on the S6720

Feature	Description
MAC address table	288k MAC address entries MAC address learning and aging Static, dynamic, and black hole MAC address entries Packet filtering based on source MAC addresses
VLAN	4K VLANs Guest VLAN and voice VLAN VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports 1:1 and N:1 VLAN Mapping QinQ and selective QinQ
IPv4 routing	Static routing, RIPv1, RIPv2, ECMP, and URPF OSPF, IS-IS, and BGP VRRP Policy-based routing Routing policy
IPv6 routing	Static route RIPng OSPFv3 BGP4+ ISISv6
IPv6 features	Neighbor Discovery (ND) PMTU IPv6 ping, IPv6 tracert, and IPv6 Telnet 6to4 tunnel, ISATAP tunnel, and manually configured tunnel ACLs based on the source IPv6 address, destination IPv6 address, Layer 4 ports, or protocol type MLD v1/v2 snooping
multicast	Static Layer 2 multicast MAC address MAC-based multicast forwarding IGMP snooping and IGMP fast leave Multicast VLAN MLD snooping IGMP proxy Controllable multicast Port-based multicast traffic statistics

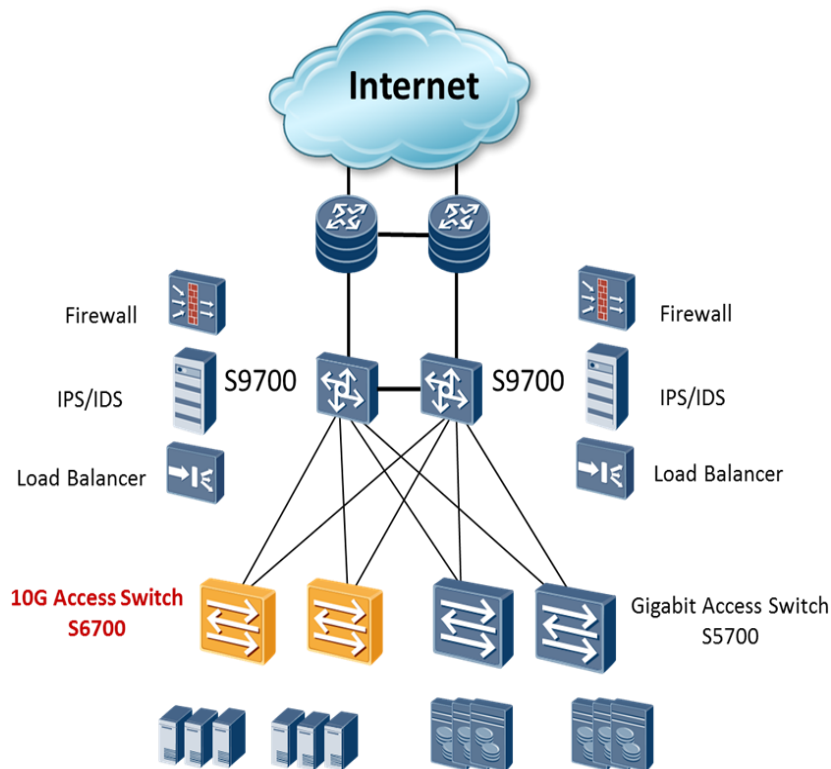
Feature	Description
	IGMP v1/v2/v3 PIM-SM, PIM-DM, and PIM-SSM MSDP
QoS/ACL	Rate limiting on packets sent and received by an interface Packet redirection Port-based traffic policing and two-rate three-color CAR Eight queues on each port WRR, DRR, SP, WRR+SP, and DRR+SP queue scheduling algorithms Re-marking of the 802.1p priority and DSCP priority Packet filtering at Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, port number, protocol type, and VLAN ID Rate limiting in each queue and traffic shaping on ports
MPLS	MPLS, MPLS VLL, L3VPN
VPLS	Martini VPLS
Reliability	STP(IEEE 802.1d), RSTP(IEEE 802.1w), and MSTP(IEEE 802.1s) BPDU protection, root protection, and loop protection RRPP ring topology and RRPP multi-instance Smart Link tree topology and Smart Link multi-instance, providing the millisecond-level protection switchover SEP ERPS(G.8032 v2) BFD for OSPF, BFD for IS-IS, BFD for VRRP, and BFD for PIM E-Trunk
Security	User privilege management and password protection DoS attack defense, ARP attack defense, and ICMP attack defense Binding of the IP address, MAC address, interface, and VLAN Port isolation, port security, and sticky MAC Blackhole MAC address entries Limit on the number of learned MAC addresses 802.1x authentication and limit on the number of users on an interface AAA authentication, RADIUS authentication and TACACS authentication SSH v2.0 Hypertext Transfer Protocol Secure (HTTPS) CPU defense Blacklist and whitelist
Super Virtual Fabric (SVF)	Working as the parent node to vertically virtualize downlink switches as one device for management, supports two-layer clients architecture Support as a client node to be managed by SVF parent
Management and maintenance	iStack (using service ports as stack ports) MAC Forced Forwarding (MFF) Virtual cable test Ethernet OAM (IEEE 802.3ah and 802.1ag) Local port mirroring and remote switched port analyzer (RSPAN),

Feature	Description
	allowing an observing port to forward packets Remote configuration and maintenance using Telnet SNMP v1/v2c/v3 RMON Web NMS System logs and alarms of different levels GVRP MUX VLAN
Interoperability	VLAN-based Spanning Tree (working with PVST/PVST+/RPVST) Link-type Negotiation Protocol (LNP), similar to the Dynamic Trunking Protocol (DTP) VLAN Central Management Protocol (VCMP), similar to the VLAN Trunk Protocol (VTP)

5 Networking and Applications

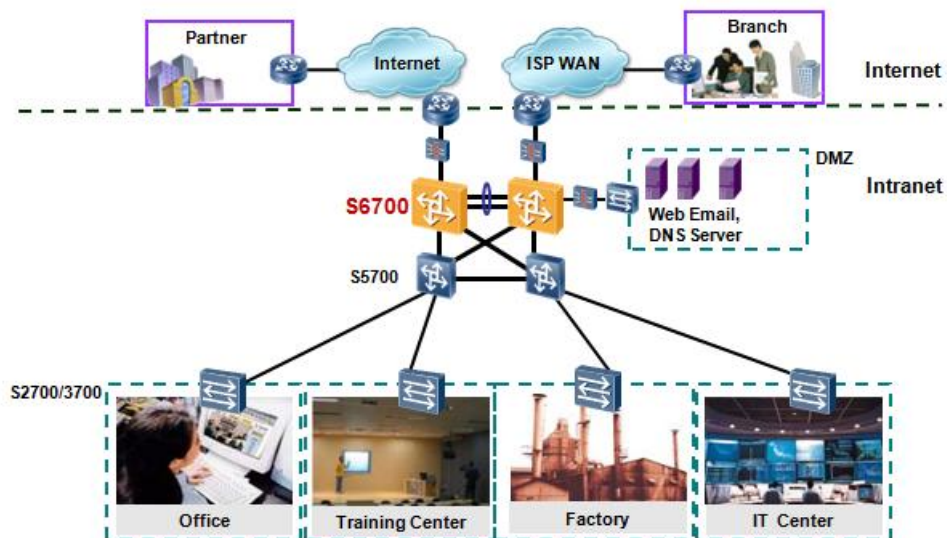
5.1 Data Center Network

As shown in Figure 5-1, the S6700 are located at the access layer to build a high-performance, reliable datacenter network, and provides high-density 10GE ports to connect to 10G servers.

Figure 5-1 Position of the S6700/S6720 series on a datacenter network

5.2 Small and Middle Campus Network

As shown in Figure 5-2, The S6700 can be used for small and medium campus network as core switches. It provides industry-leading high-density 10-gigabit ports to meet the increasing bandwidth demand. Abundant features and perfect security control mechanisms enable the S6700 to be the most cost-effective choice for campus network.

Figure 5-2 Position of the S6700/S6720 series on a small and middle campus network

6 Product Details

6.1 S6700-EI

6.1.1 S6700-24-EI

Step 1 Version Mapping

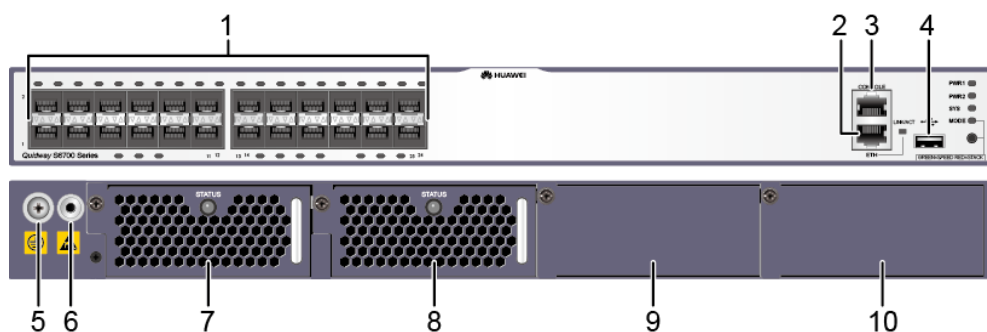
[Table 3-3](#) lists the mapping between the S6700-24-EI and software versions.

Table 6-1 Version mapping

Series	Model	Software Version
S6700-EI	S6700-24-EI	V100R006C00 to V200R005C02

Step 2 Appearance and Structure

Figure 6-1 S6700-24-EI appearance



1	<p>Twenty-four 10GE SFP+ ports</p> <p>Applicable modules and cables:</p> <ul style="list-style-type: none"> • GE optical module • GE-CWDM optical module • GE copper module (applicable in V200R001C01 and later versions) • 10GE SFP+ optical module • 10GE-CWDM optical module (applicable in V200R005C00 and later versions) • 1 m and 3 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cables (applicable in V200R005C02) • 10 m SFP+ high-speed copper cable (applicable in V200R001C00 and later versions) • 3 m and 10 m AOC cables (applicable in V200R003C00 and later versions) 	2	ETH management port
3	One console port	4	One USB port
5	<p>Ground screw</p> <p>NOTE</p> <p>It is used with a ground cable.</p>	6	<p>ESD jack</p> <p>NOTE</p> <p>Before installing or maintaining a switch, wear an ESD wrist strap and insert the other end of the ESD wrist strap into this ESD jack.</p>
7	<p>Fan slot 2</p> <p>NOTE</p> <p>Applicable fan module:</p> <p>CX7E1FANA fan module</p>	8	<p>Fan slot 1</p> <p>NOTE</p> <p>Applicable fan module:</p> <p>CX7E1FANA fan module</p>

9	Power module slot 2 NOTE <ul style="list-style-type: none"> • 500 W AC power module • 500 W DC power module 	10	Power module slot 1 NOTE <ul style="list-style-type: none"> • 500 W AC power module • 500 W DC power module
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Step 3 Port Description

10GE SFP+ port

A 10GE SFP+ Ethernet optical port supports auto-sensing to 1000 Mbit/s. It sends and receives service data at 1000 Mbit/s or 10 Gbit/s. [Table 3-4](#) describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-2 Attributes of a 10GE SFP+ port

Attribute	Description
Connector type	LC/PC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ae
Working mode	GE/10GE auto-sensing Full-duplex

Console port

The console port is connected to a console for on-site configuration. The port must use a [console cable](#). The console port is used when a switch is powered on for the first time. For details about the attributes of a console port, see [Table 3-5](#).

Table 6-3 Attributes of a console port

Attribute	Description
Connector type	RJ45
Standards compliance	RS-232
Working mode	Duplex Universal Asynchronous Receiver/Transmitter (UART)
Baud rate	9600 bit/s, 19200 bit/s, 38400 bit/s, 57600 bit/s, or 115200 bit/s Default value: 9600 bit/s

ETH management port

You can connect a switch to a configuration terminal or network management workstation through the ETH management port to configure the switch locally or remotely. The port must use a [network cable](#). You can choose to download the software package through the ETH

management port in the BootROM menu. File transfer through the ETH management port is faster than transfer through the console port. For details on how to use the ETH management port, see the *Configuration Guide - Basic Configurations*. [Table 3-6](#) describes the attributes of an ETH management port.

Table 6-4 Attributes of an ETH management port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3
Working mode	10/100 Mbit/s auto-sensing Full duplex
Maximum transmission distance	100 m

USB port

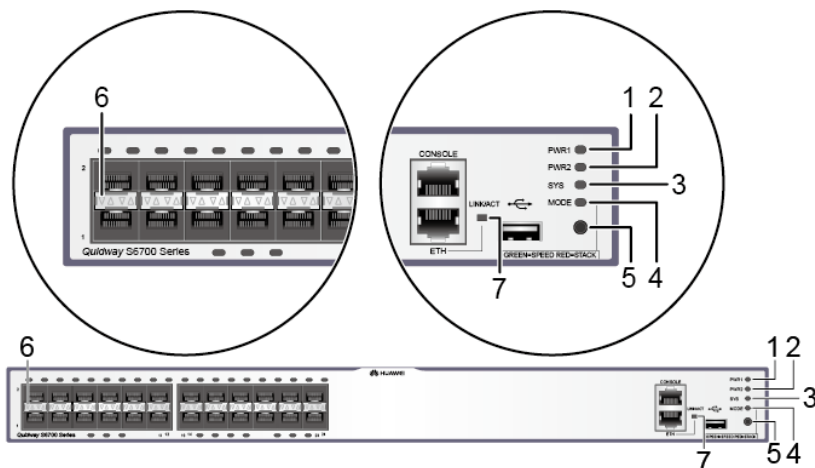
The USB port can have a USB flash drive connected to upgrade the switch, or transfer configuration files or other files. The USB flash drive used on a switch must comply with USB 1.1 and support the Linux operating system. [Table 3-7](#) lists the USB flash drives applicable to a switch.

Table 6-5 USB flash drives applicable to a switch

Capacity	Vendor	Model	Remarks
4 GB	Netac	U208	You can buy Netac USB 4 GB flash drives from Huawei or other vendors.
	SanDisk	Cruzer Blade	Huawei does not offer this USB flash drive, and you must buy it from other vendors.
	Hewlett-Packard	v218G	Huawei does not offer this USB flash drive, and you must buy it from other vendors.
	PNY	M1	Huawei does not offer this USB flash drive, and you must buy it from other vendors.
8 GB	Netac	U208	Huawei does not offer this USB flash drive, and you must buy it from other vendors.
	Hewlett-Packard	v225w	Huawei does not offer this USB flash drive, and you must buy it from other vendors.
	STEC	SLUFD8GU2T UI	Huawei does not offer this USB flash drive, and you must buy it from other vendors.

**NOTE**

Huawei is not responsible for maintenance service of USB flash drives purchased from other vendors.

Step 4 Indicator Description**Figure 6-2** Indicators on the S6700-24-EI**Table 6-6** Description of indicators on the switch

Number	Indicator/Button	Color	Description
1	PWR1: power supply indicator	-	Off: No power module is available in power module slot 1, or the switch has only one power module but the power module does not work normally.
		Green	Steady on: A power module is installed in power module slot 1 and is working normally.
		Red	Steady on: The switch has two power modules installed. Any of the following situations occurs in power module slot 1: <ul style="list-style-type: none"> A power module is available in this slot but its power switch is in the OFF position. A power module is available in this slot but it is not connected to a power source. The power module in power module slot 1 fails.
2	PWR2: power supply indicator	-	Off: No power module is available in power module slot 2, or the switch has only one power module but the power module does not work normally.

Number	Indicator/Button	Color	Description
		Green	Steady on: A power module is installed in power module slot 2 and is working normally.
		Red	Steady on: The switch has two power modules installed. Any of the following situations occurs in power module slot 2: <ul style="list-style-type: none"> • A power module is available in this slot but its power switch is in the OFF position. • A power module is available in this slot but it is not connected to a power source. • The power module in power module slot 2 fails.
3	SYS: system status indicator	-	Off: The system is not running.
		Green	Indicator states and meaning in V100R006 version: <ul style="list-style-type: none"> • Steady on: The system is not operating properly or is starting. • Slow blinking: The system is operating properly. • Fast blinking: The system is copying the system software and configuration file from a USB flash drive. Indicator states and meaning in V200R001 and later versions: <ul style="list-style-type: none"> • Fast blinking: The system is starting or is copying the system software and configuration file from a USB flash drive during a USB-based upgrade. • Slow blinking: The system is running normally.
		Yellow	<ul style="list-style-type: none"> • Steady on: The system is performing self-check during startup (only applicable to V100R006). • Blinking: The system has been successfully upgraded using a USB flash drive and the switch has restarted. You can remove the USB flash drive from the switch.
		Red	<ul style="list-style-type: none"> • Steady on: The system does not work normally after registration, or a fan or temperature alarm has been generated. • Blinking: An error occurred during USB-based upgrade and the system

Number	Indicator/Button	Color	Description
			failed to be upgraded after a USB flash drive is inserted.
4	MODE: mode indicator	-	Off: The service port indicators are in the status mode (default). In the status mode, the service port indicator shows the port link or activity state.
		Green	Steady on: The service port indicators show the port speed. After 45 seconds, the service port indicators automatically restore to the status mode.
		Red	Steady on: The service port indicators show the stack ID of the switch. After 45 seconds, the service port indicators automatically restore to the status mode.
5	Mode switch button	-	<ul style="list-style-type: none"> When you press this button once, the mode indicator turns green and the service port indicators show the speed of each service port. When you press this button a second time, the mode indicator turns red and the service port indicators show the stack status. When you press this button a third time, the mode indicator turns off. <p>If you do not press the button within 45 seconds, the mode indicator restores to status mode.</p>
6	Service port indicator	Meanings of service port indicators vary in different modes. For details, see Table 3-9 .	
7	ETH indicator	Green	<ul style="list-style-type: none"> Off: No link is established on the port. Steady on: The port is connected. Blinking: The port is sending or receiving data.

Table 6-7 Description of service port indicators in different modes

Display Mode	Color	Description
Status	-	Off: The port is not connected or has been shut down.
	Green	Steady on: The port is connected.
	Yellow	Blinking: The interface is sending or receiving data.

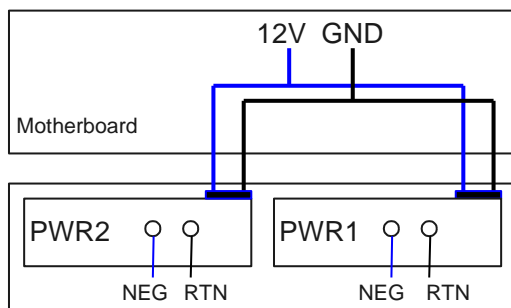
Display Mode	Color	Description
Speed	Green and yellow	<ul style="list-style-type: none"> Off: The port is not connected or has been shut down. Both steady on: The port is operating at a speed of 1000 Mbit/s. Both blinking: The port is operating at a speed of 10 Gbit/s.
Stack	Green and yellow	<ul style="list-style-type: none"> Off: Port indicators do not show the stack ID of the switch. If both indicators are steady on, the switch is not a master switch: <ul style="list-style-type: none"> ◆ If the indicator of a port is steady on, the number of this port is the stack ID of the switch. ◆ If the first nine port indicators of the switch are steady on, the stack ID of the switch is 0. If both indicators are blinking, the switch is a master switch: <ul style="list-style-type: none"> ◆ If the indicator of a port is blinking, the number of this port is the stack ID of the switch. ◆ If the first nine port indicators of the switch are blinking, the stack ID of the switch is 0.

Step 5 Power Supply Configuration

The S6700-24-EI can use a single power module or double power modules for 1+1 power redundancy. In versions prior to V200R005C00, the switch cannot use AC and DC power modules simultaneously. In V200R005C00 and later versions, the switch support mixing of AC and DC power modules.

Figure 3-4 shows the power supply connections of dual DC power modules. After DC power is transmitted to the PWR module, the PWR module provides 12 V output voltage, and the motherboard provides power for the entire device.

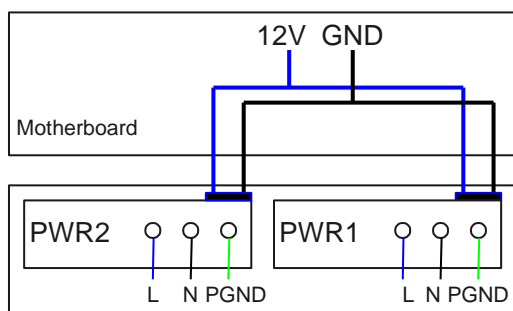
Figure 6-3 Power supply connections of dual DC power modules



NEG: negative cable RTN: positive cable GND: 12 V reference ground

Figure 3-5 shows the power supply connections of dual non-PoE AC power modules. After AC power is transmitted to the PWR module, the PWR module provides 12 V output voltage, and the motherboard provides power for the entire device.

Figure 6-4 Power supply connections of dual non-PoE AC power modules



L: Live wire N: Neutral wire PGND: Protective ground wire GND: 12 V reference ground

Step 6 Heat Dissipation

The S6700-24-EI uses pluggable fan modules for forced air cooling. Air flows in from the left and right sides, and exhausts from the rear panel.



Step 7 Technical Specifications

Table 3-10 lists specifications of the S6700-24-EI.

Table 6-8 Technical specifications

Item	Description
Memory (RAM)	512 MB
Flash	64 MB
Mean time between failures (MTBF)	34.54 years
Mean time to repair	2 hours

Item	Description
(MTTR)	
Availability	> 0.99999
Service port surge protection	NA
Power supply surge protection	<ul style="list-style-type: none"> Using AC power modules: ± 2 kV in differential mode, ± 4 kV in common mode Using DC power modules: ± 1 kV in differential mode, ± 2 kV in common mode
Dimensions (W x D x H)	442.0 mm x 420.0 mm x 43.6 mm (17.4 in. x 16.5 in. x 1.72 in.)
Weight	<ul style="list-style-type: none"> Empty: ≤ 5 kg (11.02 lb) Fully loaded: ≤ 8.5 kg (18.74 lb)
Stack ports	Any 10GE SFP+ ports (a maximum of eight physical ports)
RPS	Not supported
PoE	Not supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz -48 V DC to -60 V DC
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz -38.4 V DC to -72 V DC
Maximum power consumption (100% throughput, full speed of fans)	153.6 W
Operating temperature	<p>-5 °C to +50 °C (23 °F to 122 °F) at an altitude of 0-1800 m (0-5096 ft.)</p> <p>NOTE</p> <ul style="list-style-type: none"> The operating temperature of the switch is -5 °C to +45 °C (23 °F to 113 °F) when it uses SFP+ optical modules with 40 km or longer transmission distances. When the altitude is 1800-5000 m (5096-16404 ft.), the highest operating temperature reduces by 1 °C (1.8 °F) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Noise under normal temperature (27 °C, sound power)	< 55 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)

Item	Description
Certification	<ul style="list-style-type: none"> • EMC certification • Safety certification • Manufacturing certification

6.1.2 S6700-48-EI

Step 1 Version Mapping

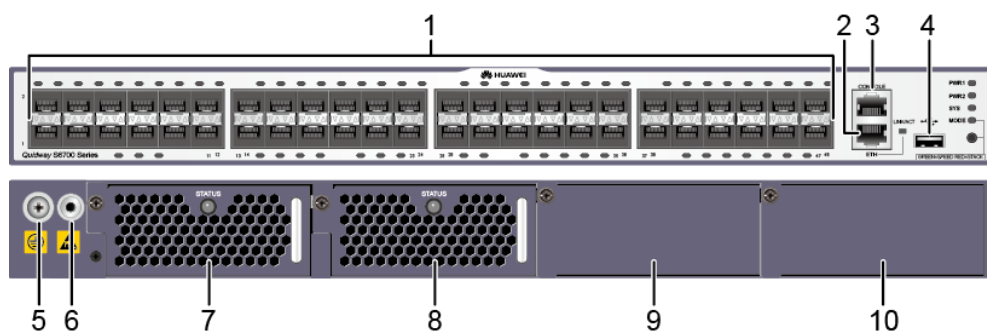
Table 3-11 lists the mapping between the S6700-48-EI and software versions.

Table 6-9 Version mapping

Series	Model	Software Version
S6700-EI	S6700-48-EI	V100R006C00 to V200R005C02

Step 2 Appearance and Structure

Figure 6-5 S6700-48-EI appearance



1	Forty-eight 10GE SFP+ ports Applicable modules and cables: <ul style="list-style-type: none"> • GE optical module • GE-CWDM optical module • GE copper module (applicable in V200R001C01 and later versions) • 10GE SFP+ optical module • 10GE-CWDM optical module (applicable in V200R005C00 and later versions) • 1 m and 3 m SFP+ high-speed copper cables 	2	ETH management port
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	<ul style="list-style-type: none"> 5 m SFP+ high-speed copper cables (applicable in V200R005C02) 10 m SFP+ high-speed copper cable (applicable in V200R001C00 and later versions) 3 m and 10 m AOC cables (applicable in V200R003C00 and later versions) 		
3	One console port	4	One USB port
5	Ground screw NOTE It is used with a ground cable .	6	ESD jack NOTE Before installing or maintaining a switch, wear an ESD wrist strap and insert the other end of the ESD wrist strap into this ESD jack.
7	Fan slot 2 NOTE Applicable fan module: CX7E1FANA fan module	8	Fan slot 1 NOTE Applicable fan module: CX7E1FANA fan module
9	Power module slot 2 NOTE <ul style="list-style-type: none"> 500 W AC power module 500 W DC power module 	10	Power module slot 1 NOTE <ul style="list-style-type: none"> 500 W AC power module 500 W DC power module

Step 3 Port Description

10GE SFP+ port

A 10GE SFP+ Ethernet optical port supports auto-sensing to 1000 Mbit/s. It sends and receives service data at 1000 Mbit/s or 10 Gbit/s. [Table 3-12](#) describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-10 Attributes of a 10GE SFP+ port

Attribute	Description
Connector type	LC/PC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ae
Working mode	GE/10GE auto-sensing Full-duplex

Console port

The console port is connected to a console for on-site configuration. The port must use a [console cable](#). The console port is used when a switch is powered on for the first time. For details about the attributes of a console port, see [Table 3-13](#).

Table 6-11 Attributes of a console port

Attribute	Description
Connector type	RJ45
Standards compliance	RS-232
Working mode	Duplex Universal Asynchronous Receiver/Transmitter (UART)
Baud rate	9600 bit/s, 19200 bit/s, 38400 bit/s, 57600 bit/s, or 115200 bit/s Default value: 9600 bit/s

ETH management port

You can connect a switch to a configuration terminal or network management workstation through the ETH management port to configure the switch locally or remotely. The port must use a [network cable](#). You can choose to download the software package through the ETH management port in the BootROM menu. File transfer through the ETH management port is faster than transfer through the console port. For details on how to use the ETH management port, see the *Configuration Guide - Basic Configurations*. [Table 3-14](#) describes the attributes of an ETH management port.

Table 6-12 Attributes of an ETH management port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3
Working mode	10/100 Mbit/s auto-sensing Full duplex
Maximum transmission distance	100 m

USB port

The USB port can have a USB flash drive connected to upgrade the switch, or transfer configuration files or other files. The USB flash drive used on a switch must comply with USB 1.1 and support the Linux operating system. [Table 3-15](#) lists the USB flash drives applicable to a switch.

Table 6-13 USB flash drives applicable to a switch

Capacity	Vendor	Model	Remarks
4 GB	Netac	U208	You can buy Netac USB 4 GB flash drives from Huawei or other vendors.
	SanDisk	Cruzer Blade	Huawei does not offer this USB flash drive, and you must buy it from other vendors.
	Hewlett-Packard	v218G	Huawei does not offer this USB flash drive, and you must buy it from other vendors.
	PNY	M1	Huawei does not offer this USB flash drive, and you must buy it from other vendors.
8 GB	Netac	U208	Huawei does not offer this USB flash drive, and you must buy it from other vendors.
	Hewlett-Packard	v225w	Huawei does not offer this USB flash drive, and you must buy it from other vendors.
	STEC	SLUFD8GU2T UI	Huawei does not offer this USB flash drive, and you must buy it from other vendors.

**NOTE**

Huawei is not responsible for maintenance service of USB flash drives purchased from other vendors.

Step 4 Indicator Description

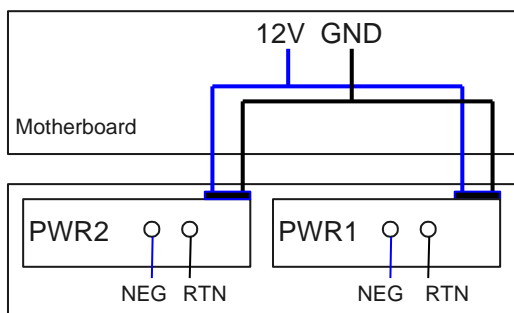
The S6700-48-EI has the same types of indicators as the S6700-24-EI. For details, see [Indicator Description](#).

Step 5 Power Supply Configuration

The S6700-48-EI can use a single power module or double power modules for 1+1 power redundancy. In versions prior to V200R005C00, the switch cannot use AC and DC power modules simultaneously. In V200R005C00 and later versions, the switch support mixing of AC and DC power modules.

[Figure 3-7](#) shows the power supply connections of dual DC power modules. After DC power is transmitted to the PWR module, the PWR module provides 12 V output voltage, and the motherboard provides power for the entire device.

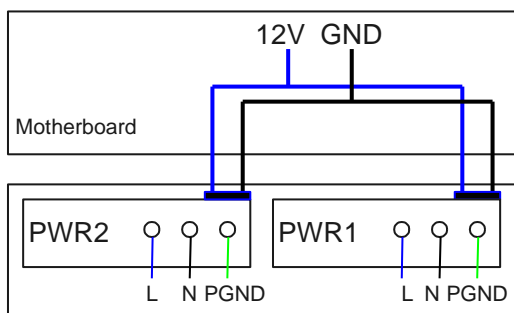
Figure 6-6 Power supply connections of dual DC power modules



NEG: negative cable RTN: positive cable GND: 12 V reference ground

Figure 3-8 shows the power supply connections of dual non-PoE AC power modules. After AC power is transmitted to the PWR module, the PWR module provides 12 V output voltage, and the motherboard provides power for the entire device.

Figure 6-7 Power supply connections of dual non-PoE AC power modules



L: Live wire N: Neutral wire PGND: Protective ground wire GND: 12 V reference ground

Step 6 Heat Dissipation

The S6700-48-EI uses pluggable fan modules for forced air cooling. Air flows in from the left and right sides, and exhausts from the rear panel.



NOTE

This figure only shows the airflow direction and does not depict the actual device.

Step 7 Technical Specifications

Table 3-16 lists specifications of the S6700-48-EI.

Table 6-14 Technical specifications

Item	Description
Memory (RAM)	512 MB
Flash	64 MB
Mean time between failures (MTBF)	33.76
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	NA
Power supply surge protection	<ul style="list-style-type: none"> Using AC power modules: ± 2 kV in differential mode, ± 4 kV in common mode Using DC power modules: ± 1 kV in differential mode, ± 2 kV in common mode
Dimensions (W x D x H)	442.0 mm x 420.0 mm x 43.6 mm (17.4 in. x 16.5 in. x 1.72 in.)
Weight	<ul style="list-style-type: none"> Empty: ≤ 5 kg (11.02 lb) Fully loaded: ≤ 8.5 kg (18.74 lb)
Stack ports	Any 10GE SFP+ ports (a maximum of eight physical ports)
RPS	Not supported
PoE	Not supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz -48 V DC to -60 V DC
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz -38.4 V DC to -72 V DC
Maximum power consumption (100% throughput, full speed of fans)	240 W
Operating temperature	-5 °C to +50 °C (23 °F to 122 °F) at an altitude of 0-1800 m (0-5096 ft.) NOTE <ul style="list-style-type: none"> The operating temperature of the switch is -5 °C to +45 °C (23 °F to 113 °F) when it uses SFP+ optical modules with 40 km or longer transmission distances. When the altitude is 1800-5000 m (5096-16404 ft.), the highest operating

Item	Description
	temperature reduces by 1 °C (1.8 °F) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Noise under normal temperature (27 °C, sound power)	< 55 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	<ul style="list-style-type: none"> • EMC certification • Safety certification • Manufacturing certification

6.2 S6720-EI

6.2.1 S6720-30C-EI-24S-AC

Step 1 Version Mapping

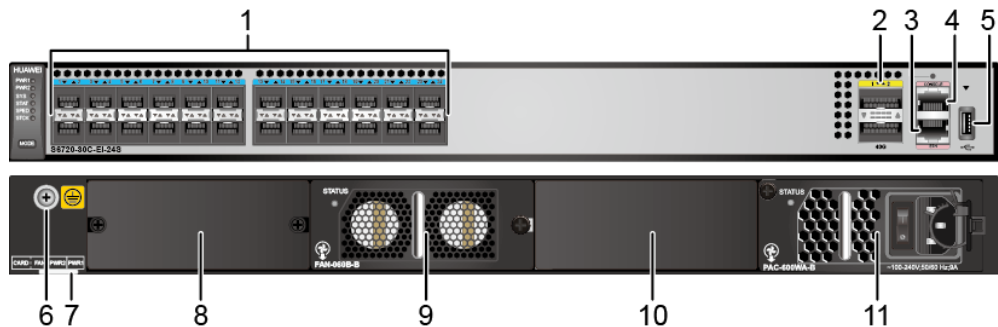
Table 3-17 lists the mapping between the S6720-30C-EI-24S-AC chassis and software versions.

Table 6-15 Version mapping

Series	Model	Software Version
S6720-EI	S6720-30C-EI-24S-AC	V200R008C00 and later versions

Step 2 Appearance and Structure

Figure 6-8 S6720-30C-EI-24S-AC appearance



1	<p>Twenty-four 10GE SFP+ ports</p> <p>Applicable modules and cables:</p> <ul style="list-style-type: none"> • GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module • 10GE SFP+ optical module (OSXD22N00 not supported) • 10GE-CWDM optical module • 1 m, 3 m, 5 m, and 10 m SFP+ high-speed copper cables • 3 m and 10 m SFP+ AOC cables 	2	<p>Two 40GE QSFP+ ports</p> <p>Applicable modules and cables:</p> <ul style="list-style-type: none"> • QSFP+ optical module • 1 m, 3 m, and 5 m QSFP+ to QSFP+ high-speed copper cables • 1 m, 3 m, and 5 m QSFP+ to 4*SFP+ high-speed copper cables • 10 m QSFP+ to QSFP+ AOC cable (applicable in V200R009C00 and later versions) • 10 m QSFP+ to 4*SFP+ AOC cable (applicable in V200R009C00 and later versions) <p>NOTE A 40GE QSFP+ optical port can be split into four 10GE ports.</p>
3	ETH management port	4	One console port
5	One USB port	6	<p>Ground screw</p> <p>NOTE It is used with a ground cable.</p>
7	<p>ESN label</p> <p>NOTE You can draw it out to view the ESN and MAC address of the switch.</p>	8	<p>Rear card slot</p> <p>NOTE Card supported: 6.2 ES5D21Q04Q01 (4-Port 40 Gig QSFP+ Rear Interface Card, Used in S6720-EI Series)</p>
9	<p>Fan slot</p> <p>NOTE Applicable fan module: 5.2 FAN-060B-B Fan Module</p>	10	<p>Power module slot 2</p> <p>NOTE Applicable power modules:</p> <ul style="list-style-type: none"> • 350 W DC power module • 600 W AC power module
11	<p>Power module slot 1</p> <p>NOTE Applicable power modules:</p> <ul style="list-style-type: none"> • 350 W DC power module • 600 W AC power module 	-	-

Step 3 Port Description

10GE SFP+ port

A 10GE SFP+ Ethernet optical port supports auto-sensing to 1000 Mbit/s. It sends and receives service data at 1000 Mbit/s or 10 Gbit/s. [Table 3-18](#) describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-16 Attributes of a 10GE SFP+ port

Attribute	Description
Connector type	LC/PC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ae
Working mode	GE/10GE auto-sensing Full-duplex

40GE QSFP+ port

A 40GE QSFP+ optical port sends and receives service traffic at 40 Gbit/s and can be split into four 10GE ports. After a split, 40GE QSFP+ optical port needs to be connected to a remote device using a 1-to-4 QSFP+ fiber (with matching optical modules), 1-to-4 QSFP+ AOC cable, or a 1-to-4 QSFP+ copper cable. [Table 3-19](#) describes the attributes of a 40GE QSFP+ optical port.

Table 6-17 Attributes of a 40GE QSFP+ optical port

Attribute	Description
Connector type	MPO/LC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ba
Working mode	Full-duplex

Console port

The console port is connected to a console for on-site configuration. The port must use a [console cable](#). The console port is used when a switch is powered on for the first time. For details about the attributes of a console port, see [Table 3-20](#).

Table 6-18 Attributes of a console port

Attribute	Description
Connector type	RJ45
Standards compliance	RS-232
Working mode	Duplex Universal Asynchronous Receiver/Transmitter (UART)
Baud rate	9600 bit/s, 19200 bit/s, 38400 bit/s, 57600 bit/s, or 115200 bit/s

Attribute	Description
	Default value: 9600 bit/s

ETH management port

You can connect a switch to a configuration terminal or network management workstation through the ETH management port to configure the switch locally or remotely. The port must use a [network cable](#). You can choose to download the software package through the ETH management port in the BootLoad menu. File transfer through the ETH management port is faster than transfer through the console port. For details on how to use the ETH management port, see the *Configuration Guide - Basic Configurations*. [Table 3-21](#) describes the attributes of an ETH management port.

Table 6-19 Attributes of an ETH management port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3
Working mode	10/100 Mbit/s auto-sensing Full duplex
Maximum transmission distance	100 m

USB port

The USB port can have a USB flash drive connected to upgrade the switch, or transfer configuration files or other files. The USB port can only connect to a USB flash drive that complies with USB 1.1 or 2.0 and supports the Linux operating system.

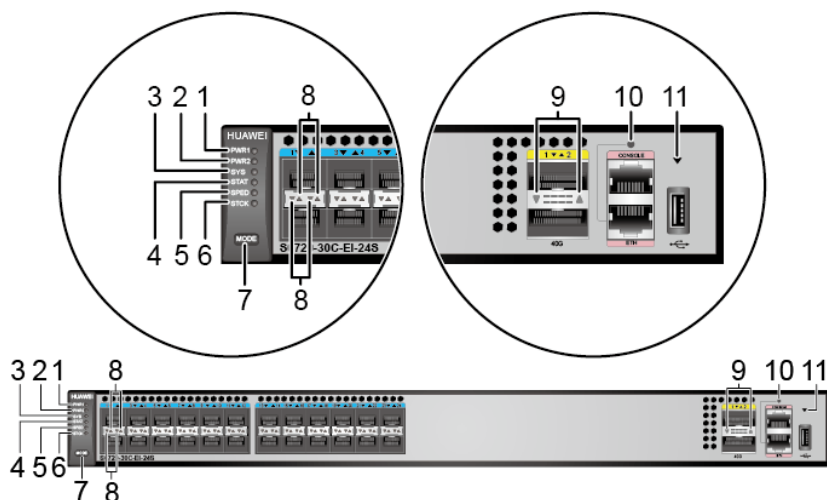
Step 4 Indicator Description



NOTE

Hold down the mode switch button for 6s and release it to start the web initial login mode. Either of the following situations will occur:

- If the switch has no configuration file, the system attempts to enter the web initial login mode. In this mode, the status of mode indicators is as follows:
- If the system enters the web initial login mode successfully, all mode indicators turn green and stay on for a maximum of 10 minutes.
- If the system fails to enter the initial login mode, all mode indicators fast blink for 10 seconds and then restore to the default status.
- If the switch has a configuration file, the system cannot enter the web initial login mode. In this case, all mode indicators fast blink for 10s, and then return to the default states.

Figure 6-9 Indicators on the S6720-30C-EI-24S-AC

 **NOTE**

The S6720-EI series switches provide a command that can turn on the fault indicators to help field maintenance personnel find a faulty switch.

The SYS indicator and mode indicators (STAT, SPED, and STCK) are used as fault indicators. When an S6720-EI switch is faulty, you can run the command to turn on the fault indicators. Then the SYS indicator and mode indicators fast blink red to help field maintenance personnel quickly find the faulty switch.

Table 6-20 Description of indicators on the switch

No.	Indicator	Color	Description
1	PWR1: power module indicator	-	Off: No power module is available in power module slot 1, or the switch has only one power module but the power module does not work normally.
		Green	Steady on: A power module is installed in power module slot 1 and is working normally.
		Yellow	Steady on: The switch has two power modules installed. Any of the following situations occurs in power module slot 1: <ul style="list-style-type: none"> A power module is available in this slot but its power switch is in the OFF position. A power module is available in this slot but it is not connected to a power source. The power module in this slot has failed.
2	PWR2: power module	-	Off: No power module is available in power module slot 2, or the switch has only one power module but the power

No.	Indicator	Color	Description
	indicator		module does not work normally.
		Green	Steady on: A power module is installed in power module slot 2 and is working normally.
		Yellow	Steady on: The switch has two power modules installed. Any of the following situations occurs in power module slot 2: <ul style="list-style-type: none"> • A power module is available in this slot but its power switch is in the OFF position. • A power module is available in this slot but it is not connected to a power source. • The power module in this slot has failed.
3	SYS: system status indicator	-	Off: The system is not running.
		Green	<ul style="list-style-type: none"> • Fast blinking: The system is starting. • Slow blinking: The system is running normally.
		Red	Steady on: The system does not work normally after registration, or a fan alarm or temperature alarm has been generated.
4	STAT: status indicator	Green	<ul style="list-style-type: none"> • Off: The status mode is not selected. • Steady on: The status mode (default mode) is selected, and service port indicators show the link connection states and link activity on ports.
5	SPED: speed indicator	Green	<ul style="list-style-type: none"> • Off: The speed mode is not selected. • Steady on: The speed mode is selected. In this mode, service port indicators show port speeds. After 45 seconds, the service port indicators automatically restore to the status mode.
6	STCK: stack indicator	Green	<p>If you are not changing the indicator mode (default state):</p> <ul style="list-style-type: none"> • Off: The switch is the standby or slave switch in a stack or a standalone switch with the stacking function disabled. • Blinking: The switch is the master switch in a stack or a standalone switch with the stacking function enabled.

No.	Indicator	Color	Description
			<p>If you are changing the indicator mode:</p> <ul style="list-style-type: none"> • Off: The stack mode is not selected. • Steady on: The stack mode is selected. The switch is a standby or slave switch in a stack, and the service port indicators show the stack ID of the switch. • Blinking: The switch is the master switch in a stack or a standalone switch, and the service port indicators show the stack ID of the master switch. <p>After 45 seconds, the service port indicators automatically restore to the status mode.</p>
7	MODE: mode switch button	-	<ul style="list-style-type: none"> • When you press this button once, the service port indicators change to the speed mode and show the speed of each service port. • When you press the button a second time, the service port indicators change to the stack mode and show the stack ID of the local switch. • When you press the button a third time, the service port indicators restore to the default mode, and the STAT indicator turns green. <p>If you do not press the MODE button within 45 seconds, the service port indicators restore to the default mode. In this case, the STAT indicator is steady green, the SPED indicator is off, and the STCK indicator is off or blinking green.</p>
8	<p>10GE service port indicator (two indicators for each port)</p> <p>NOTE Arrowheads show the positions of ports. A down arrowhead indicates a port at the bottom, and an up arrowhead indicates a port at the top.</p>		<p>Meanings of service port indicators vary in different modes. For details, see Table 3-23.</p>

No.	Indicator	Color	Description
9	40GE service port indicator (one indicator for each port)		Meanings of service port indicators vary in different modes. For details, see Table 3-24 .
10	ETH port indicator	Green	<ul style="list-style-type: none"> Off: The ETH port is not connected. Steady on: The ETH port is connected. Blinking: The ETH port is sending or receiving data.
11	USB-based deployment indicator	-	Off: <ul style="list-style-type: none"> No USB flash drive is connected to the switch. The USB port is damaged. The indicator is damaged. The USB flash drive does not have any configuration file and cannot be used for deployment. The switch has been upgraded using the USB flash drive and is restarting.
		Green	<ul style="list-style-type: none"> Steady on: A USB-based deployment has been completed. Blinking: The system is reading data from a USB flash drive.
		Yellow	Steady on: The switch has copied all the required files and completed the file check. The USB flash drive can be removed from the switch.
		Red	Blinking: An error has occurred when the system is executing the configuration file or reading data from the USB flash drive.

Table 6-21 Description of 10GE service port indicators in different modes (two indicators for each port)

Mode	Color	Description
Status	-	Off: The port is not connected or has been shut down.
	Green	Steady on: A link has been established on the port.
	Yellow	Blinking: The port is sending or receiving data.

Mode	Color	Description
Speed	Green and yellow	<ul style="list-style-type: none"> Off: The port is not connected or has been shut down. Both steady on: 1000M/10GE port: The port is operating at 1000 Mbit/s. Both blinking: 1000M/10GE port: The port is operating at 10 Gbit/s.
Stack	Green and yellow	<ul style="list-style-type: none"> Off: Port indicators do not show the stack member ID of the switch. Both steady on: The switch is not the master switch in a stack. <ul style="list-style-type: none"> ◆ If the indicators of a service port are steady on, the number of the service port is the stack ID of the switch. ◆ If indicators of the first nine ports are steady on, the stack ID of the switch is 0. Both blinking: The switch is the master switch in a stack. <ul style="list-style-type: none"> ◆ If the indicators of a service port are blinking, the number of the service port is the stack ID of the switch. ◆ If indicators of the first nine ports are blinking, the stack ID of the switch is 0.

Table 6-22 Description of 40GE service port indicators in different modes (one indicator for each port)

Display Mode	Color	Description
Status	Green	<ul style="list-style-type: none"> Off: The port is not connected or has been shut down. Steady on: A link has been established on the port. Blinking: The port is sending or receiving data.
Speed	Green	<ul style="list-style-type: none"> Off: The port is not connected or has been shut down. Steady on: The port is operating at 10

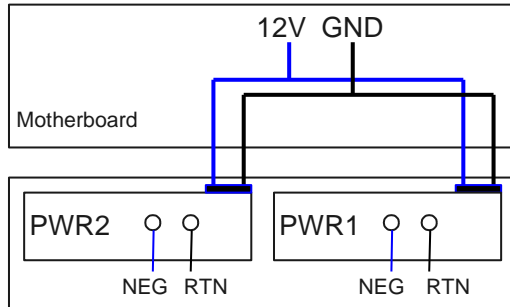
Display Mode	Color	Description
		Gbit/s. • Blinking: The port is operating at 40 Gbit/s.

Step 5 Power Supply Configuration

The S6720-30C-EI-24S-AC can be configured with a single power module or double power modules for 1+1 power redundancy. AC and DC power modules can be used together in the same switch.

Figure 3-11 shows the power supply connections of dual DC power modules. After DC power is transmitted to the PWR module, the PWR module provides 12 V output voltage, and the motherboard provides power for the entire device.

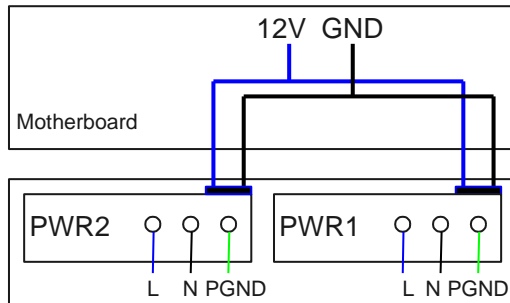
Figure 6-10 Power supply connections of dual DC power modules



NEG: negative cable RTN: positive cable GND: 12 V reference ground

Figure 3-12 shows the power supply connections of dual non-PoE AC power modules. After AC power is transmitted to the PWR module, the PWR module provides 12 V output voltage, and the motherboard provides power for the entire device.

Figure 6-11 Power supply connections of dual non-PoE AC power modules



L: Live wire N: Neutral wire PGND: Protective ground wire GND: 12 V reference ground

Step 6 Heat Dissipation

The S6720-30C-EI-24S-AC uses pluggable fan modules for forced air cooling. Air flows in from the left side, right side, and front panel, and exhausts from the rear panel.



NOTE

This figure only shows the airflow direction and does not depict the actual device.

Step 7 Technical Specifications

Table 3-25 lists technical specifications of the S6720-30C-EI-24S-AC.

Table 6-23 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	240 MB
Mean time between failures (MTBF)	80.60 years when no interface card is configured; 70.79 years when a 4-port 40GE interface card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	NA
Power supply surge protection	<ul style="list-style-type: none"> Using AC power modules: ± 6 kV in differential mode, ± 6 kV in common mode Using DC power modules: ± 1 kV in differential mode, ± 2 kV in common mode
Dimensions (W x D x H)	442.0 mm x 420.0 mm x 44.4 mm (17.4 in. x 16.5 in. x 1.74 in.)
Weight	<ul style="list-style-type: none"> Empty: ≤ 8 kg (17.64 lb) Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	<ul style="list-style-type: none"> Any 10GE SFP+ ports (a maximum of 16 physical ports) Any 40GE QSFP+ ports (a maximum of 6 physical ports)
RPS	Not supported
PoE	Not supported

Item	Description
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz -48 V DC to -60 V DC
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz -38.4 V DC to -72 V DC
Maximum power consumption (100% throughput, full speed of fans)	233.7 W
Operating temperature	0 °C to 45 °C (32 °F to 113 °F) at an altitude of 0-1800 m (0-5096 ft.) NOTE When the altitude is 1800-5000 m (5096-16404 ft.), the highest operating temperature reduces by 1 °C (1.8 °F) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Noise under normal temperature (27 °C, sound power)	< 72.1 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	<ul style="list-style-type: none"> • EMC certification • Safety certification • Manufacturing certification

6.2.2 S6720-30C-EI-24S-DC

Step 1 Version Mapping

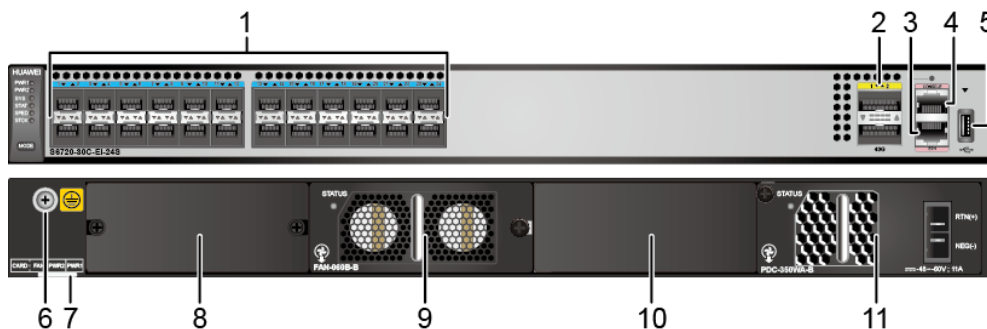
[Table 3-26](#) lists the mapping between the S6720-30C-EI-24S-DC chassis and software versions.

Table 6-24 Version mapping

Series	Model	Software Version
S6720-EI	S6720-30C-EI-24S-DC	V200R009C00 and later versions

Step 2 Appearance and Structure

Figure 6-12 S6720-30C-EI-24S-DC appearance



1	<p>Twenty-four 10GE SFP+ ports</p> <p>Applicable modules and cables:</p> <ul style="list-style-type: none"> • GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module • 10GE SFP+ optical module (OSXD22N00 not supported) • 10GE-CWDM optical module • 1 m, 3 m, 5 m, and 10 m SFP+ high-speed copper cables • 3 m and 10 m SFP+ AOC cables 	2	<p>Two 40GE QSFP+ ports</p> <p>Applicable modules and cables:</p> <ul style="list-style-type: none"> • QSFP+ optical module • 1 m, 3 m, and 5 m QSFP+ to QSFP+ high-speed copper cables • 1 m, 3 m, and 5 m QSFP+ to 4*SFP+ high-speed copper cables • 10 m QSFP+ to QSFP+ AOC cable (applicable in V200R009C00 and later versions) • 10 m QSFP+ to 4*SFP+ AOC cable (applicable in V200R009C00 and later versions) <p>NOTE A 40GE QSFP+ optical port can be split into four 10GE ports.</p>
3	ETH management port	4	One console port
5	One USB port	6	Ground screw NOTE It is used with a ground cable .
7	ESN label NOTE You can draw it out to view the ESN and MAC address of the switch.	8	Rear card slot NOTE Card supported: 6.2 ES5D21Q04Q01 (4-Port 40 Gig QSFP+ Rear Interface Card, Used in S6720-EI Series)
9	Fan slot NOTE Applicable fan module: 5.2 FAN-060B-B Fan Module	10	Power module slot 2 NOTE Applicable power modules: <ul style="list-style-type: none"> • 350 W DC power module • 600 W AC power module
11	Power module slot 1	-	-

	NOTE Applicable power modules:		
	<ul style="list-style-type: none"> • 350 W DC power module • 600 W AC power module 		

Step 3 Port Description

10GE SFP+ port

A 10GE SFP+ Ethernet optical port supports auto-sensing to 1000 Mbit/s. It sends and receives service data at 1000 Mbit/s or 10 Gbit/s. [Table 3-27](#) describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-25 Attributes of a 10GE SFP+ port

Attribute	Description
Connector type	LC/PC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ae
Working mode	GE/10GE auto-sensing Full-duplex

40GE QSFP+ port

A 40GE QSFP+ optical port sends and receives service traffic at 40 Gbit/s and can be split into four 10GE ports. After a split, 40GE QSFP+ optical port needs to be connected to a remote device using a 1-to-4 QSFP+ fiber (with matching optical modules), 1-to-4 QSFP+ AOC cable, or a 1-to-4 QSFP+ copper cable. [Table 3-28](#) describes the attributes of a 40GE QSFP+ optical port.

Table 6-26 Attributes of a 40GE QSFP+ optical port

Attribute	Description
Connector type	MPO/LC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ba
Working mode	Full-duplex

Console port

The console port is connected to a console for on-site configuration. The port must use a [console cable](#). The console port is used when a switch is powered on for the first time. For details about the attributes of a console port, see [Table 3-29](#).

Table 6-27 Attributes of a console port

Attribute	Description
Connector type	RJ45
Standards compliance	RS-232
Working mode	Duplex Universal Asynchronous Receiver/Transmitter (UART)
Baud rate	9600 bit/s, 19200 bit/s, 38400 bit/s, 57600 bit/s, or 115200 bit/s Default value: 9600 bit/s

ETH management port

You can connect a switch to a configuration terminal or network management workstation through the ETH management port to configure the switch locally or remotely. The port must use a [network cable](#). You can choose to download the software package through the ETH management port in the BootLoad menu. File transfer through the ETH management port is faster than transfer through the console port. For details on how to use the ETH management port, see the *Configuration Guide - Basic Configurations*. [Table 3-30](#) describes the attributes of an ETH management port.

Table 6-28 Attributes of an ETH management port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3
Working mode	10/100 Mbit/s auto-sensing Full duplex
Maximum transmission distance	100 m

USB port

The USB port can have a USB flash drive connected to upgrade the switch, or transfer configuration files or other files. The USB port can only connect to a USB flash drive that complies with USB 1.1 or 2.0 and supports the Linux operating system.

Step 4 Indicator Description

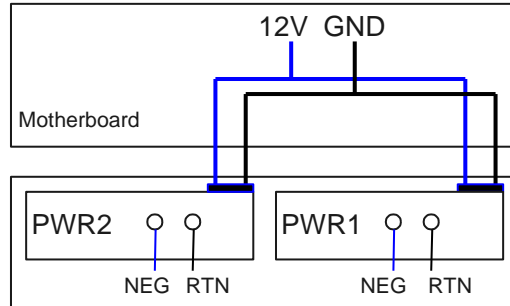
The S6720-30C-EI-24S-DC have the same types of indicators as the S6720-30C-EI-24S-AC. For details, see [Indicator Description](#).

Step 5 Power Supply Configuration

The S6720-30C-EI-24S-DC can be configured with a single power module or double power modules for 1+1 power redundancy. AC and DC power modules can be used together in the same switch.

Figure 3-14 shows the power supply connections of dual DC power modules. After DC power is transmitted to the PWR module, the PWR module provides 12 V output voltage, and the motherboard provides power for the entire device.

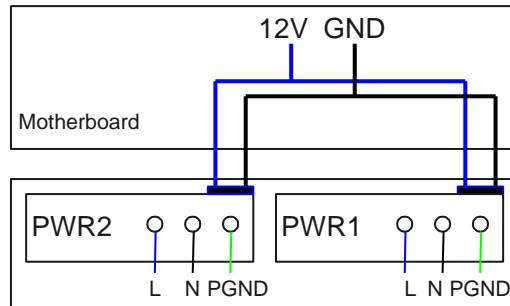
Figure 6-13 Power supply connections of dual DC power modules



NEG: negative cable RTN: positive cable GND: 12 V reference ground

Figure 3-15 shows the power supply connections of dual non-PoE AC power modules. After AC power is transmitted to the PWR module, the PWR module provides 12 V output voltage, and the motherboard provides power for the entire device.

Figure 6-14 Power supply connections of dual non-PoE AC power modules



L: Live wire N: Neutral wire PGND: Protective ground wire GND: 12 V reference ground

Step 6 Heat Dissipation

The S6720-30C-EI-24S-DC uses pluggable fan modules for forced air cooling. Air flows in from the left side, right side, and front panel, and exhausts from the rear panel.

**NOTE**

This figure only shows the airflow direction and does not depict the actual device.

Step 7 Technical Specifications

Table 3-31 lists technical specifications of the S6720-30C-EI-24S-DC.

Table 6-29 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	240 MB
Mean time between failures (MTBF)	80.60 years when no interface card is configured; 70.79 years when a 4-port 40GE interface card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	NA
Power supply surge protection	<ul style="list-style-type: none"> Using AC power modules: ± 6 kV in differential mode, ± 6 kV in common mode Using DC power modules: ± 1 kV in differential mode, ± 2 kV in common mode
Dimensions (W x D x H)	442.0 mm x 420.0 mm x 44.4 mm (17.4 in. x 16.5 in. x 1.74 in.)
Weight	<ul style="list-style-type: none"> Empty: ≤ 8 kg (17.64 lb) Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	<ul style="list-style-type: none"> Any 10GE SFP+ ports (a maximum of 16 physical ports) Any 40GE QSFP+ ports (a maximum of 6 physical ports)
RPS	Not supported
PoE	Not supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz -48 V DC to -60 V DC
Maximum voltage	90 V AC to 264 V AC, 47 Hz to 63 Hz

Item	Description
range	-38.4 V DC to -72 V DC
Maximum power consumption (100% throughput, full speed of fans)	212.5 W
Operating temperature	0 °C to 45 °C (32 °F to 113 °F) at an altitude of 0-1800 m (0-5096 ft.) NOTE When the altitude is 1800-5000 m (5096-16404 ft.), the highest operating temperature reduces by 1 °C (1.8 °F) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Noise under normal temperature (27 °C, sound power)	< 72.1 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	<ul style="list-style-type: none"> • EMC certification • Safety certification • Manufacturing certification

6.2.3 S6720-54C-EI-48S-AC

Step 1 Version Mapping

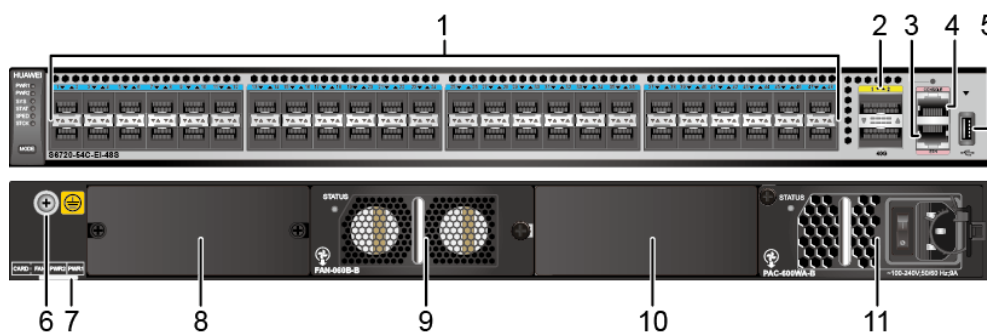
[Table 3-32](#) lists the mapping between the S6720-54C-EI-48S-AC chassis and software versions.

Table 6-30 Version mapping

Series	Model	Software Version
S6720-EI	S6720-54C-EI-48S-AC	V200R008C00 and later versions

Step 2 Appearance and Structure

Figure 6-15 S6720-54C-EI-48S-AC appearance



1	<p>Forty-eight 10GE SFP+ ports</p> <p>Applicable modules and cables:</p> <ul style="list-style-type: none"> • GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module • 10GE SFP+ optical module (OSXD22N00, SFP-10G-ZR, and SFP-10G-ZDWT not supported) • 1 m, 3 m, 5 m, and 10 m SFP+ high-speed copper cables • 3 m and 10 m SFP+ AOC cables 	2	<p>Two 40GE QSFP+ ports</p> <p>Applicable modules and cables:</p> <ul style="list-style-type: none"> • QSFP+ optical module • 1 m, 3 m, and 5 m QSFP+ to QSFP+ high-speed copper cables • 1 m, 3 m, and 5 m QSFP+ to 4*SFP+ high-speed copper cables • 10 m QSFP+ to QSFP+ AOC cable (applicable in V200R009C00 and later versions) • 10 m QSFP+ to 4*SFP+ AOC cable (applicable in V200R009C00 and later versions) <p>NOTE</p> <p>A 40GE QSFP+ optical port can be split into four 10GE ports.</p>
3	ETH management port	4	One console port
5	One USB port	6	Ground screw NOTE It is used with a ground cable .
7	ESN label NOTE You can draw it out to view the ESN and MAC address of the switch.	8	Rear card slot NOTE Card supported: 6.2 ES5D21Q04Q01 (4-Port 40 Gig QSFP+ Rear Interface Card, Used in S6720-EI Series)
9	Fan slot NOTE Applicable fan module: 5.2 FAN-060B-B Fan Module	10	Power module slot 2 NOTE Applicable power modules: <ul style="list-style-type: none"> • 350 W DC power module • 600 W AC power module
11	Power module slot 1	-	-

	NOTE Applicable power modules:		
	<ul style="list-style-type: none"> • 350 W DC power module • 600 W AC power module 		

Step 3 Port Description

10GE SFP+ port

A 10GE SFP+ Ethernet optical port supports auto-sensing to 1000 Mbit/s. It sends and receives service data at 1000 Mbit/s or 10 Gbit/s. [Table 3-33](#) describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-31 Attributes of a 10GE SFP+ port

Attribute	Description
Connector type	LC/PC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ae
Working mode	GE/10GE auto-sensing Full-duplex

40GE QSFP+ port

A 40GE QSFP+ optical port sends and receives service traffic at 40 Gbit/s and can be split into four 10GE ports. After a split, 40GE QSFP+ optical port needs to be connected to a remote device using a 1-to-4 QSFP+ fiber (with matching optical modules), 1-to-4 QSFP+ AOC cable, or a 1-to-4 QSFP+ copper cable. [Table 3-34](#) describes the attributes of a 40GE QSFP+ optical port.

Table 6-32 Attributes of a 40GE QSFP+ optical port

Attribute	Description
Connector type	MPO/LC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ba
Working mode	Full-duplex

Console port

The console port is connected to a console for on-site configuration. The port must use a [console cable](#). The console port is used when a switch is powered on for the first time. For details about the attributes of a console port, see [Table 3-35](#).

Table 6-33 Attributes of a console port

Attribute	Description
Connector type	RJ45
Standards compliance	RS-232
Working mode	Duplex Universal Asynchronous Receiver/Transmitter (UART)
Baud rate	9600 bit/s, 19200 bit/s, 38400 bit/s, 57600 bit/s, or 115200 bit/s Default value: 9600 bit/s

ETH management port

You can connect a switch to a configuration terminal or network management workstation through the ETH management port to configure the switch locally or remotely. The port must use a [network cable](#). You can choose to download the software package through the ETH management port in the BootLoad menu. File transfer through the ETH management port is faster than transfer through the console port. For details on how to use the ETH management port, see the *Configuration Guide - Basic Configurations*. [Table 3-36](#) describes the attributes of an ETH management port.

Table 6-34 Attributes of an ETH management port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3
Working mode	10/100 Mbit/s auto-sensing Full duplex
Maximum transmission distance	100 m

USB port

The USB port can have a USB flash drive connected to upgrade the switch, or transfer configuration files or other files. The USB port can only connect to a USB flash drive that complies with USB 1.1 or 2.0 and supports the Linux operating system.

Step 4 Indicator Description

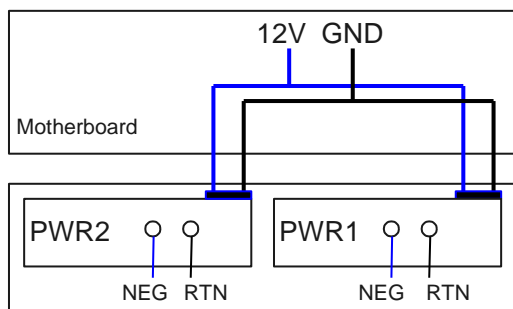
The S6720-54C-EI-48S-AC have the same types of indicators as the S6720-30C-EI-24S-AC. For details, see [Indicator Description](#).

Step 5 Power Supply Configuration

The S6720-54C-EI-48S-AC can be configured with a single power module or double power modules for 1+1 power redundancy. AC and DC power modules can be used together in the same switch.

Figure 3-17 shows the power supply connections of dual DC power modules. After DC power is transmitted to the PWR module, the PWR module provides 12 V output voltage, and the motherboard provides power for the entire device.

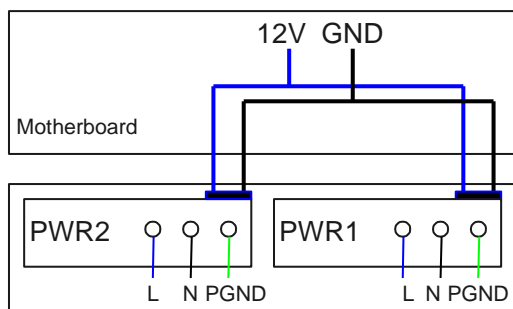
Figure 6-16 Power supply connections of dual DC power modules



NEG: negative cable RTN: positive cable GND: 12 V reference ground

Figure 3-18 shows the power supply connections of dual non-PoE AC power modules. After AC power is transmitted to the PWR module, the PWR module provides 12 V output voltage, and the motherboard provides power for the entire device.

Figure 6-17 Power supply connections of dual non-PoE AC power modules



L: Live wire N: Neutral wire PGND: Protective ground wire GND: 12 V reference ground

Step 6 Heat Dissipation

The S6720-54C-EI-48S-AC uses pluggable fan modules for forced air cooling. Air flows in from the left side, right side, and front panel, and exhausts from the rear panel.



Step 7 Technical Specifications

Table 3-37 lists technical specifications of the S6720-54C-EI-48S-AC.

Table 6-35 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	240 MB
Mean time between failures (MTBF)	79.39 years when no interface card is configured; 69.86 years when a 4-port 40GE interface card is configured
Mean time to repair (MTTR)	2
Availability	> 0.99999
Service port surge protection	NA
Power supply surge protection	<ul style="list-style-type: none"> Using AC power modules: ± 6 kV in differential mode, ± 6 kV in common mode Using DC power modules: ± 1 kV in differential mode, ± 2 kV in common mode
Dimensions (W x D x H)	442.0 mm x 420.0 mm x 44.4 mm (17.4 in. x 16.5 in. x 1.74 in.)
Weight	<ul style="list-style-type: none"> Empty: ≤ 8 kg (17.64 lb) Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	<ul style="list-style-type: none"> Any 10GE SFP+ ports (a maximum of 16 physical ports) Any 40GE QSFP+ ports (a maximum of 6 physical ports)
RPS	Not supported
PoE	Not supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz -48 V DC to -60 V DC
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz -38.4 V DC to -72 V DC
Maximum power	296.1 W

Item	Description
consumption (100% throughput, full speed of fans)	
Operating temperature	0 °C to 45 °C (32 °F to 113 °F) at an altitude of 0-1800 m (0-5096 ft.) NOTE When the altitude is 1800-5000 m (5096-16404 ft.), the highest operating temperature reduces by 1 °C (1.8 °F) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Noise under normal temperature (27 °C, sound power)	< 72.1 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	<ul style="list-style-type: none"> • EMC certification • Safety certification • Manufacturing certification

6.2.4 S6720-54C-EI-48S-DC

Step 1 Version Mapping

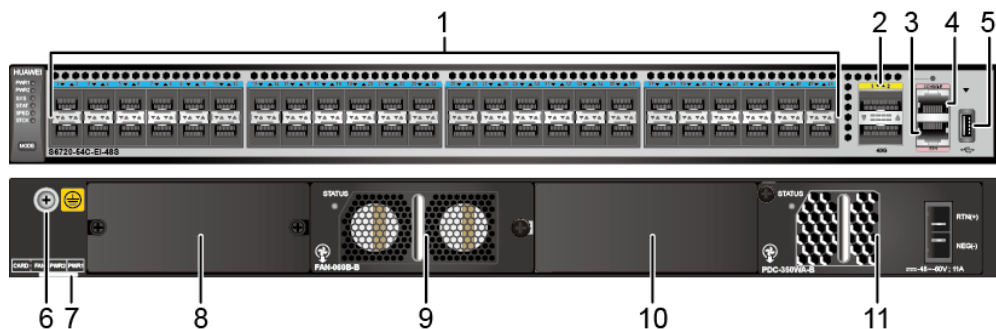
[Table 3-38](#) lists the mapping between the S6720-54C-EI-48S-DC chassis and software versions.

Table 6-36 Version mapping

Series	Model	Software Version
S6720-EI	S6720-54C-EI-48S-DC	V200R009C00 and later versions

Step 2 Appearance and Structure

Figure 6-18 S6720-54C-EI-48S-DC appearance



1	<p>Forty-eight 10GE SFP+ ports</p> <p>Applicable modules and cables:</p> <ul style="list-style-type: none"> • GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module • 10GE SFP+ optical module (OSXD22N00, SFP-10G-ZR, and SFP-10G-ZDWT not supported) • 1 m, 3 m, 5 m, and 10 m SFP+ high-speed copper cables • 3 m and 10 m SFP+ AOC cables 	2	<p>Two 40GE QSFP+ ports</p> <p>Applicable modules and cables:</p> <ul style="list-style-type: none"> • QSFP+ optical module • 1 m, 3 m, and 5 m QSFP+ to QSFP+ high-speed copper cables • 1 m, 3 m, and 5 m QSFP+ to 4*SFP+ high-speed copper cables • 10 m QSFP+ to QSFP+ AOC cable (applicable in V200R009C00 and later versions) • 10 m QSFP+ to 4*SFP+ AOC cable (applicable in V200R009C00 and later versions) <p>NOTE</p> <p>A 40GE QSFP+ optical port can be split into four 10GE ports.</p>
3	ETH management port	4	One console port
5	One USB port	6	Ground screw NOTE It is used with a ground cable .
7	ESN label NOTE You can draw it out to view the ESN and MAC address of the switch.	8	Rear card slot NOTE Card supported: 6.2 ES5D21Q04Q01 (4-Port 40 Gig QSFP+ Rear Interface Card, Used in S6720-EI Series)
9	Fan slot NOTE Applicable fan module: 5.2 FAN-060B-B Fan Module	10	Power module slot 2 NOTE Applicable power modules: <ul style="list-style-type: none"> • 350 W DC power module • 600 W AC power module
11	Power module slot 1	-	-

	NOTE Applicable power modules:		
	<ul style="list-style-type: none"> • 350 W DC power module • 600 W AC power module 		

Step 3 Port Description

10GE SFP+ port

A 10GE SFP+ Ethernet optical port supports auto-sensing to 1000 Mbit/s. It sends and receives service data at 1000 Mbit/s or 10 Gbit/s. [Table 3-39](#) describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-37 Attributes of a 10GE SFP+ port

Attribute	Description
Connector type	LC/PC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ae
Working mode	GE/10GE auto-sensing Full-duplex

40GE QSFP+ port

A 40GE QSFP+ optical port sends and receives service traffic at 40 Gbit/s and can be split into four 10GE ports. After a split, 40GE QSFP+ optical port needs to be connected to a remote device using a 1-to-4 QSFP+ fiber (with matching optical modules), 1-to-4 QSFP+ AOC cable, or a 1-to-4 QSFP+ copper cable. [Table 3-40](#) describes the attributes of a 40GE QSFP+ optical port.

Table 6-38 Attributes of a 40GE QSFP+ optical port

Attribute	Description
Connector type	MPO/LC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ba
Working mode	Full-duplex

Console port

The console port is connected to a console for on-site configuration. The port must use a [console cable](#). The console port is used when a switch is powered on for the first time. For details about the attributes of a console port, see [Table 3-41](#).

Table 6-39 Attributes of a console port

Attribute	Description
Connector type	RJ45
Standards compliance	RS-232
Working mode	Duplex Universal Asynchronous Receiver/Transmitter (UART)
Baud rate	9600 bit/s, 19200 bit/s, 38400 bit/s, 57600 bit/s, or 115200 bit/s Default value: 9600 bit/s

ETH management port

You can connect a switch to a configuration terminal or network management workstation through the ETH management port to configure the switch locally or remotely. The port must use a [network cable](#). You can choose to download the software package through the ETH management port in the BootLoad menu. File transfer through the ETH management port is faster than transfer through the console port. For details on how to use the ETH management port, see the *Configuration Guide - Basic Configurations*. [Table 3-42](#) describes the attributes of an ETH management port.

Table 6-40 Attributes of an ETH management port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3
Working mode	10/100 Mbit/s auto-sensing Full duplex
Maximum transmission distance	100 m

USB port

The USB port can have a USB flash drive connected to upgrade the switch, or transfer configuration files or other files. The USB port can only connect to a USB flash drive that complies with USB 1.1 or 2.0 and supports the Linux operating system.

Step 4 Indicator Description

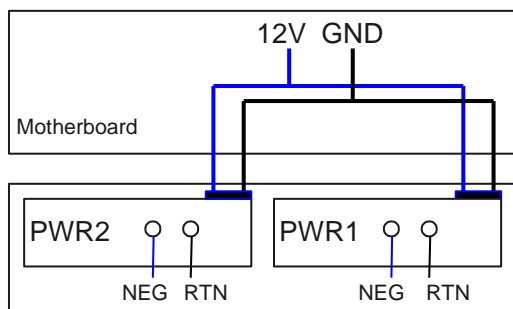
The S6720-54C-EI-48S-DC have the same types of indicators as the S6720-30C-EI-24S-AC. For details, see [Indicator Description](#).

Step 5 Power Supply Configuration

The S6720-54C-EI-48S-DC can be configured with a single power module or double power modules for 1+1 power redundancy. AC and DC power modules can be used together in the same switch.

Figure 3-20 shows the power supply connections of dual DC power modules. After DC power is transmitted to the PWR module, the PWR module provides 12 V output voltage, and the motherboard provides power for the entire device.

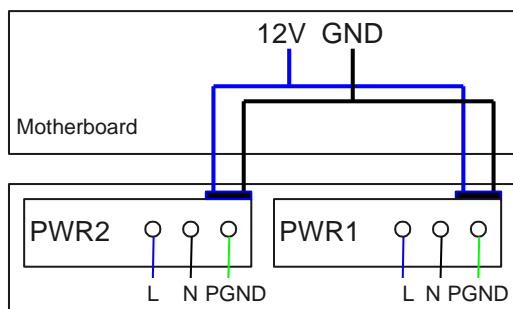
Figure 6-19 Power supply connections of dual DC power modules



NEG: negative cable RTN: positive cable GND: 12 V reference ground

Figure 3-21 shows the power supply connections of dual non-PoE AC power modules. After AC power is transmitted to the PWR module, the PWR module provides 12 V output voltage, and the motherboard provides power for the entire device.

Figure 6-20 Power supply connections of dual non-PoE AC power modules



L: Live wire N: Neutral wire PGND: Protective ground wire GND: 12 V reference ground

Step 6 Heat Dissipation

The S6720-54C-EI-48S-DC uses pluggable fan modules for forced air cooling. Air flows in from the left side, right side, and front panel, and exhausts from the rear panel.



Step 7 Technical Specifications

Table 3-43 lists technical specifications of the S6720-54C-EI-48S-DC.

Table 6-41 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	240 MB
Mean time between failures (MTBF)	79.39 years when no interface card is configured; 69.86 years when a 4-port 40GE interface card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	NA
Power supply surge protection	<ul style="list-style-type: none"> Using AC power modules: ± 6 kV in differential mode, ± 6 kV in common mode Using DC power modules: ± 1 kV in differential mode, ± 2 kV in common mode
Dimensions (W x D x H)	442.0 mm x 420.0 mm x 44.4 mm (17.4 in. x 16.5 in. x 1.74 in.)
Weight	<ul style="list-style-type: none"> Empty: ≤ 8 kg (17.64 lb) Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	<ul style="list-style-type: none"> Any 10GE SFP+ ports (a maximum of 16 physical ports) Any 40GE QSFP+ ports (a maximum of 6 physical ports)
RPS	Not supported
PoE	Not supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz -48 V DC to -60 V DC
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz -38.4 V DC to -72 V DC
Maximum power	268.6 W

Item	Description
consumption (100% throughput, full speed of fans)	
Operating temperature	0 °C to 45 °C (32 °F to 113 °F) at an altitude of 0-1800 m (0-5096 ft.) NOTE When the altitude is 1800-5000 m (5096-16404 ft.), the highest operating temperature reduces by 1 °C (1.8 °F) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Noise under normal temperature (27 °C, sound power)	< 72.1 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	<ul style="list-style-type: none"> • EMC certification • Safety certification • Manufacturing certification

6.3 S6720S-EI

6.3.1 S6720S-26Q-EI-24S-AC

Step 1 Version Mapping

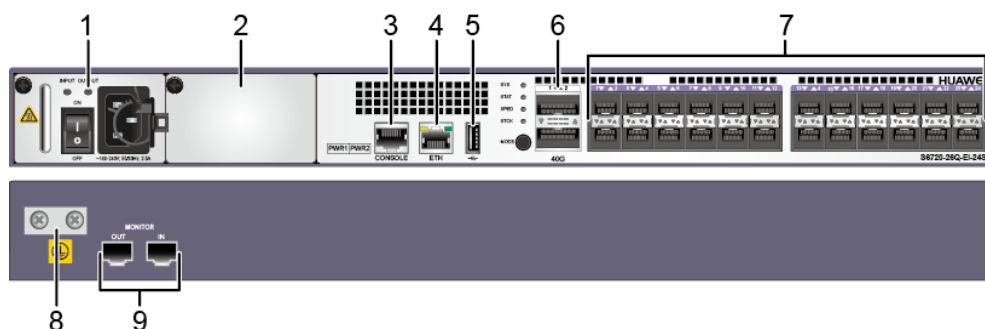
[Table 3-44](#) lists the mapping between the S6720S-26Q-EI-24S-AC chassis and software versions.

Table 6-42 Version mapping

Series	Model	Software Version
S6720S-EI	S6720S-26Q-EI-24S-AC	V200R009C00 and later versions

Step 2 Appearance and Structure

Figure 6-21 S6720S-26Q-EI-24S-AC appearance



1	<p>Power module slot 1</p> <p>NOTE</p> <p>Applicable power modules:</p> <ul style="list-style-type: none"> • 170 W AC power module • 170 W DC power module 	2	<p>Power module slot 2</p> <p>NOTE</p> <p>Applicable power modules:</p> <ul style="list-style-type: none"> • 170 W AC power module • 170 W DC power module
3	One console port	4	ETH management port
5	USB port	6	<p>Two 40GE QSFP+ ports</p> <p>Applicable modules and cables:</p> <ul style="list-style-type: none"> • QSFP+ optical module • 1 m, 3 m, and 5 m QSFP+ to QSFP+ high-speed copper cables • 1 m, 3 m, and 5 m QSFP+ to 4*SFP+ high-speed copper cables • 10 m QSFP+ to QSFP+ AOC cable • 10 m QSFP+ to 4*SFP+ AOC cable <p>NOTE</p> <p>A 40GE QSFP+ optical port can be split into four 10GE ports.</p>
7	<p>Twenty-four 10GE SFP+ ports</p> <p>Applicable modules and cables:</p> <ul style="list-style-type: none"> • GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module • 10GE SFP+ optical module (OSXD22N00, SFP-10G-ZR, and SFP-10G-ZDWT not supported) • 1 m, 3 m, 5 m, and 10 m SFP+ high-speed copper cables • 3 m and 10 m SFP+ AOC cables 	8	<p>Ground screw</p> <p>NOTE</p> <p>It is used with a ground cable. The switch has two ground screws, any of which can be used to install a ground cable.</p>

9	Monitoring port NOTE This port is reserved and cannot be used currently.	-	-
---	---	---	---

Step 3 Port Description

10GE SFP+ port

A 10GE SFP+ Ethernet optical port supports auto-sensing to 1000 Mbit/s. It sends and receives service data at 1000 Mbit/s or 10 Gbit/s. [Table 3-45](#) describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-43 Attributes of a 10GE SFP+ port

Attribute	Description
Connector type	LC/PC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ae
Working mode	GE/10GE auto-sensing Full-duplex

40GE QSFP+ port

A 40GE QSFP+ optical port sends and receives service traffic at 40 Gbit/s and can be split into four 10GE ports. After a split, 40GE QSFP+ optical port needs to be connected to a remote device using a 1-to-4 QSFP+ fiber (with matching optical modules), 1-to-4 QSFP+ AOC cable, or a 1-to-4 QSFP+ copper cable. [Table 3-46](#) describes the attributes of a 40GE QSFP+ optical port.

Table 6-44 Attributes of a 40GE QSFP+ optical port

Attribute	Description
Connector type	MPO/LC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ba
Working mode	Full-duplex

Console port

The console port is connected to a console for on-site configuration. The port must use a [console cable](#). The console port is used when a switch is powered on for the first time. For details about the attributes of a console port, see [Table 3-47](#).

Table 6-45 Attributes of a console port

Attribute	Description
Connector type	RJ45
Standards compliance	RS-232
Working mode	Duplex Universal Asynchronous Receiver/Transmitter (UART)
Baud rate	9600 bit/s, 19200 bit/s, 38400 bit/s, 57600 bit/s, or 115200 bit/s Default value: 9600 bit/s

ETH management port

You can connect a switch to a configuration terminal or network management workstation through the ETH management port to configure the switch locally or remotely. The port must use a [network cable](#). You can choose to download the software package through the ETH management port in the BootLoad menu. File transfer through the ETH management port is faster than transfer through the console port. For details on how to use the ETH management port, see the *Configuration Guide - Basic Configurations*. [Table 3-48](#) describes the attributes of an ETH management port.

Table 6-46 Attributes of an ETH management port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3
Working mode	10/100 Mbit/s auto-sensing Full duplex
Maximum transmission distance	100 m

USB port

The USB port can have a USB flash drive connected to upgrade the switch, or transfer configuration files or other files. The USB port can only connect to a USB flash drive that complies with USB 1.1 or 2.0 and supports the Linux operating system.

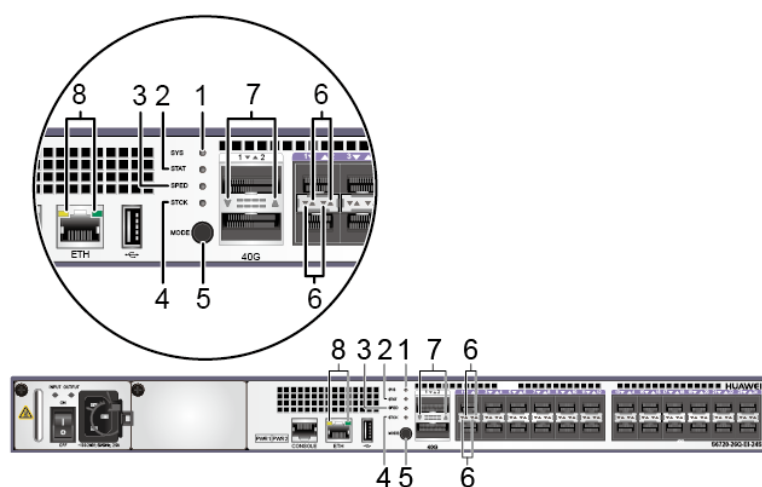
Step 4 Indicator Description

NOTE

Hold down the mode switch button for 6s and release it to start the web initial login mode. Either of the following situations will occur:

- If the switch has no configuration file, the system attempts to enter the web initial login mode. In this mode, the status of mode indicators is as follows:
- If the system enters the web initial login mode successfully, all mode indicators turn green and stay on for a maximum of 10 minutes.
- If the system fails to enter the initial login mode, all mode indicators fast blink for 10 seconds and then restore to the default status.
- If the switch has a configuration file, the system cannot enter the web initial login mode. In this case, all mode indicators fast blink for 10s, and then return to the default states.

Figure 6-22 Indicators on the S6720S-26Q-EI-24S-AC



NOTE

The S6720S-EI series switches provide a command that can turn on the fault indicators to help field maintenance personnel find a faulty switch.

The SYS indicator and mode indicators (STAT, SPED, and STCK) are used as fault indicators. When a switch is faulty, you can run the command to turn on the fault indicators. Then the SYS indicator and mode indicators fast blink red to help field maintenance personnel quickly find the faulty switch.

Table 6-47 Indicator description

No.	Indicator	Color	Description
1	SYS: system status indicator	-	Off: The system is not running.
		Green	<ul style="list-style-type: none"> • Fast blinking: The system is starting. • Slow blinking: The system is running normally.
		Red	Steady on: The system does not work normally after registration, or a fan alarm or temperature alarm has been generated.
2	STAT: status	Green	<ul style="list-style-type: none"> • Off: The status mode is not selected.

No.	Indicator	Color	Description
	indicator		<ul style="list-style-type: none"> Steady on: The status mode (default mode) is selected, and service port indicators show the link connection states and link activity on ports.
3	SPED: speed indicator	Green	<ul style="list-style-type: none"> Off: The speed mode is not selected. Steady on: The speed mode is selected. In this mode, service port indicators show port speeds. After 45 seconds, the service port indicators automatically restore to the status mode.
4	STCK: stack indicator	Green	<p>If you are not changing the indicator mode (default state):</p> <ul style="list-style-type: none"> Off: The switch is the standby or slave switch in a stack or a standalone switch with the stacking function disabled. Blinking: The switch is the master switch in a stack or a standalone switch with the stacking function enabled. <p>If you are changing the indicator mode:</p> <ul style="list-style-type: none"> Off: The stack mode is not selected. Steady on: The stack mode is selected. The switch is a standby or slave switch in a stack, and the service port indicators show the stack ID of the switch. Blinking: The switch is the master switch in a stack or a standalone switch, and the service port indicators show the stack ID of the master switch. <p>After 45 seconds, the service port indicators automatically restore to the status mode.</p>
5	MODE: mode switch button	-	<ul style="list-style-type: none"> When you press this button once, the service port indicators change to the speed mode and show the speed of each service port. When you press the button a second time, the service port indicators change to the stack mode and show the stack ID of the local switch. When you press the button a third time, the service port indicators restore to the default mode, and the

No.	Indicator	Color	Description
			<p>STAT indicator turns green.</p> <p>If you do not press the MODE button within 45 seconds, the service port indicators restore to the default mode. In this case, the STAT indicator is steady green, the SPED indicator is off, and the STCK indicator is off or blinking green.</p>
6	<p>10GE service port indicator (two indicators for each port)</p> <p>NOTE Arrowheads show the positions of ports. A down arrowhead indicates a port at the bottom, and an up arrowhead indicates a port at the top.</p>		<p>Meanings of service port indicators vary in different modes. For details, see Table 3-50.</p>
7	40GE service port indicator (one indicator for each port)		<p>Meanings of service port indicators vary in different modes. For details, see Table 3-51.</p>
8	ETH port indicator	-	Off: The ETH port is not connected.
		Green	Steady on: The ETH port is connected.
		Yellow	Blinking: The port is sending or receiving data.

Table 6-48 Description of 10GE service port indicators in different modes (two indicators for each port)

Mode	Color	Description
Status	-	Off: The port is not connected or has been shut down.
	Green	Steady on: A link has been established on the port.
	Yellow	Blinking: The port is sending or receiving data.
Speed	Green and yellow	<ul style="list-style-type: none"> Off: The port is not connected or has been shut down. Both steady on:

Mode	Color	Description
		<p>1000M/10GE port: The port is operating at 1000 Mbit/s.</p> <ul style="list-style-type: none"> Both blinking: 1000M/10GE port: The port is operating at 10 Gbit/s.
Stack	Green and yellow	<ul style="list-style-type: none"> Off: Port indicators do not show the stack member ID of the switch. Both steady on: The switch is not the master switch in a stack. <ul style="list-style-type: none"> ◆ If the indicators of a service port are steady on, the number of the service port is the stack ID of the switch. ◆ If indicators of the first nine ports are steady on, the stack ID of the switch is 0. Both blinking: The switch is the master switch in a stack. <ul style="list-style-type: none"> ◆ If the indicators of a service port are blinking, the number of the service port is the stack ID of the switch. ◆ If indicators of the first nine ports are blinking, the stack ID of the switch is 0.

Table 6-49 Description of 40GE service port indicators in different modes (one indicator for each port)

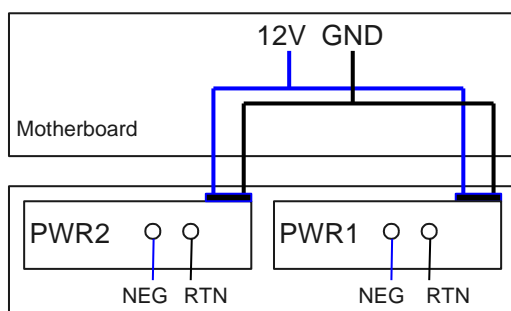
Display Mode	Color	Description
Status	Green	<ul style="list-style-type: none"> Off: The port is not connected or has been shut down. Steady on: A link has been established on the port. Blinking: The port is sending or receiving data.
Speed	Green	<ul style="list-style-type: none"> Off: The port is not connected or has been shut down. Steady on: The port is operating at 10 Gbit/s. Blinking: The port is operating at 40 Gbit/s.

Step 5 Power Supply Configuration

The S6720S-26Q-EI-24S-AC can be configured with a single power module or double power modules for 1+1 power redundancy. AC and DC power modules can be used together in the same switch.

Figure 3-24 shows the power supply connections of dual DC power modules. After DC power is transmitted to the PWR module, the PWR module provides 12 V output voltage, and the motherboard provides power for the entire device.

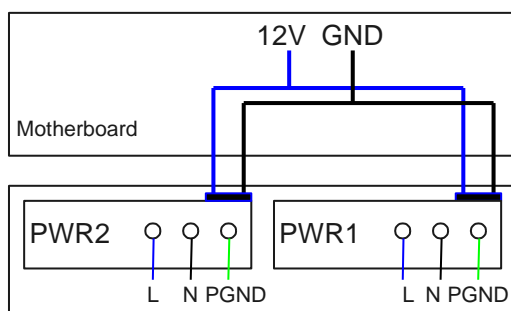
Figure 6-23 Power supply connections of dual DC power modules



NEG: negative cable RTN: positive cable GND: 12 V reference ground

Figure 3-25 shows the power supply connections of dual non-PoE AC power modules. After AC power is transmitted to the PWR module, the PWR module provides 12 V output voltage, and the motherboard provides power for the entire device.

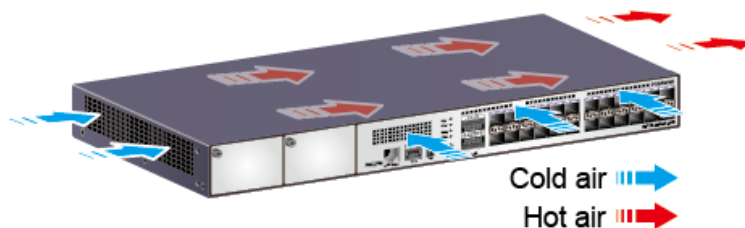
Figure 6-24 Power supply connections of dual non-PoE AC power modules



L: Live wire N: Neutral wire PGND: Protective ground wire GND: 12 V reference ground

Step 6 Heat Dissipation

The S6720S-26Q-EI-24S-AC has built-in fans for forced air cooling. Air flows in from the left side and front panel, and exhausts from the right side.



Step 7 Technical Specifications

Table 3-52 lists technical specifications of the S6720S-26Q-EI-24S-AC.

Table 6-50 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	240 MB
Mean time between failures (MTBF)	69.53 years
Mean time to repair (MTTR)	2
Availability	> 0.99999
Service port surge protection	NA
Power supply surge protection	<ul style="list-style-type: none"> Using AC power modules: ± 6 kV in differential mode, ± 6 kV in common mode Using DC power modules: ± 1 kV in differential mode, ± 2 kV in common mode
Dimensions (W x D x H)	442.0 mm x 220.0 mm x 44.4 mm (17.4 in. x 8.7 in. x 1.74 in.)
Weight	<ul style="list-style-type: none"> Empty: ≤ 5 kg (11.02 lb) Fully loaded: ≤ 6.5 kg (14.33 lb)
Stack ports	<ul style="list-style-type: none"> Any 10GE SFP+ ports (a maximum of 16 physical ports) Any 40GE QSFP+ ports (a maximum of 2 physical ports)
RPS	Not supported
PoE	Not supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz -48 V DC to -60 V DC
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz -36 V DC to -72 V DC
Maximum power consumption	143.4 W

Item	Description
(100% throughput, full speed of fans)	
Operating temperature	0 °C to 45 °C (32 °F to 113 °F) at an altitude of 0-1800 m (0-5096 ft.) NOTE When the altitude is 1800-5000 m (5096-16404 ft.), the highest operating temperature reduces by 1 °C (1.8 °F) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Noise under normal temperature (27 °C, sound power)	< 67.1 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	<ul style="list-style-type: none"> AC power modules configured: 0-5000 m (0-16404 ft.) DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	<ul style="list-style-type: none"> EMC certification Safety certification Manufacturing certification

6.3.2 S6720S-26Q-EI-24S-DC

Step 1 Version Mapping

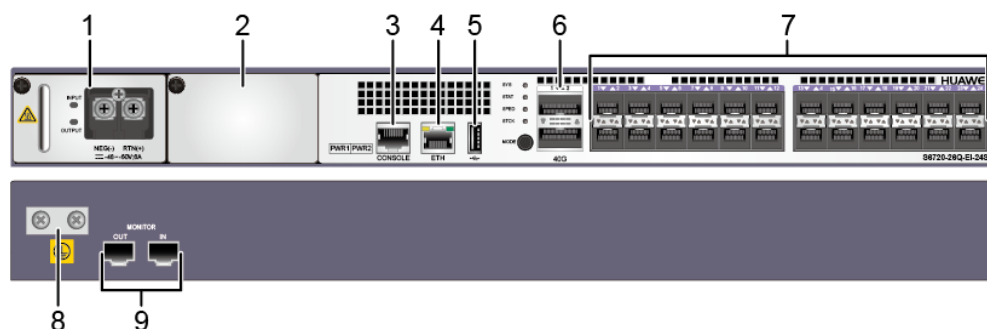
[Table 3-53](#) lists the mapping between the S6720S-26Q-EI-24S-DC chassis and software versions.

Table 6-51 Version mapping

Series	Model	Software Version
S6720S-EI	S6720S-26Q-EI-24S-DC	V200R009C00 and later versions

Step 2 Appearance and Structure

Figure 6-25 S6720S-26Q-EI-24S-DC appearance



1	Power module slot 1 NOTE Applicable power modules: <ul style="list-style-type: none"> 170 W AC power module 170 W DC power module 	2	Power module slot 2 NOTE Applicable power modules: <ul style="list-style-type: none"> 170 W AC power module 170 W DC power module
3	One console port	4	ETH management port
5	USB port	6	Two 40GE QSFP+ ports Applicable modules and cables: <ul style="list-style-type: none"> QSFP+ optical module 1 m, 3 m, and 5 m QSFP+ to QSFP+ high-speed copper cables 1 m, 3 m, and 5 m QSFP+ to 4*SFP+ high-speed copper cables 10 m QSFP+ to QSFP+ AOC cable 10 m QSFP+ to 4*SFP+ AOC cable NOTE A 40GE QSFP+ optical port can be split into four 10GE ports.
7	Twenty-four 10GE SFP+ ports Applicable modules and cables: <ul style="list-style-type: none"> GE optical module GE-CWDM optical module GE-DWDM optical module GE copper module 10GE SFP+ optical module (OSXD22N00, SFP-10G-ZR, and SFP-10G-ZDWT not supported) 1 m, 3 m, 5 m, and 10 m SFP+ high-speed copper cables 3 m and 10 m SFP+ AOC cables 	8	Ground screw NOTE It is used with a ground cable . The switch has two ground screws, any of which can be used to install a ground cable.

9	Monitoring port NOTE This port is reserved and cannot be used currently.	-	-
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Step 3 Port Description

10GE SFP+ port

A 10GE SFP+ Ethernet optical port supports auto-sensing to 1000 Mbit/s. It sends and receives service data at 1000 Mbit/s or 10 Gbit/s. [Table 3-54](#) describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-52 Attributes of a 10GE SFP+ port

Attribute	Description
Connector type	LC/PC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ae
Working mode	GE/10GE auto-sensing Full-duplex

40GE QSFP+ port

A 40GE QSFP+ optical port sends and receives service traffic at 40 Gbit/s and can be split into four 10GE ports. After a split, 40GE QSFP+ optical port needs to be connected to a remote device using a 1-to-4 QSFP+ fiber (with matching optical modules), 1-to-4 QSFP+ AOC cable, or a 1-to-4 QSFP+ copper cable. [Table 3-55](#) describes the attributes of a 40GE QSFP+ optical port.

Table 6-53 Attributes of a 40GE QSFP+ optical port

Attribute	Description
Connector type	MPO/LC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ba
Working mode	Full-duplex

Console port

The console port is connected to a console for on-site configuration. The port must use a [console cable](#). The console port is used when a switch is powered on for the first time. For details about the attributes of a console port, see [Table 3-56](#).

Table 6-54 Attributes of a console port

Attribute	Description
Connector type	RJ45
Standards compliance	RS-232
Working mode	Duplex Universal Asynchronous Receiver/Transmitter (UART)
Baud rate	9600 bit/s, 19200 bit/s, 38400 bit/s, 57600 bit/s, or 115200 bit/s Default value: 9600 bit/s

ETH management port

You can connect a switch to a configuration terminal or network management workstation through the ETH management port to configure the switch locally or remotely. The port must use a [network cable](#). You can choose to download the software package through the ETH management port in the BootLoad menu. File transfer through the ETH management port is faster than transfer through the console port. For details on how to use the ETH management port, see the *Configuration Guide - Basic Configurations*. [Table 3-57](#) describes the attributes of an ETH management port.

Table 6-55 Attributes of an ETH management port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3
Working mode	10/100 Mbit/s auto-sensing Full duplex
Maximum transmission distance	100 m

USB port

The USB port can have a USB flash drive connected to upgrade the switch, or transfer configuration files or other files. The USB port can only connect to a USB flash drive that complies with USB 1.1 or 2.0 and supports the Linux operating system.

Step 4 Indicator Description

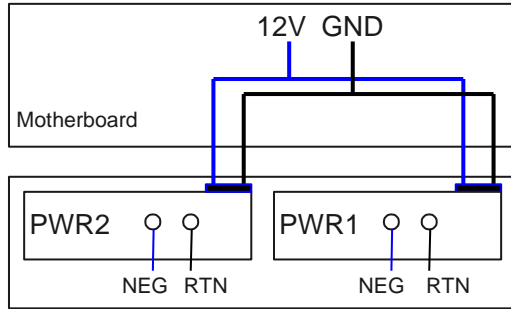
The S6720S-26Q-EI-24S-DC have the same types of indicators as the S6720S-26Q-EI-24S-AC. For details, see [Indicator Description](#).

Step 5 Power Supply Configuration

The S6720S-26Q-EI-24S-DC can be configured with a single power module or double power modules for 1+1 power redundancy. AC and DC power modules can be used together in the same switch.

Figure 3-27 shows the power supply connections of dual DC power modules. After DC power is transmitted to the PWR module, the PWR module provides 12 V output voltage, and the motherboard provides power for the entire device.

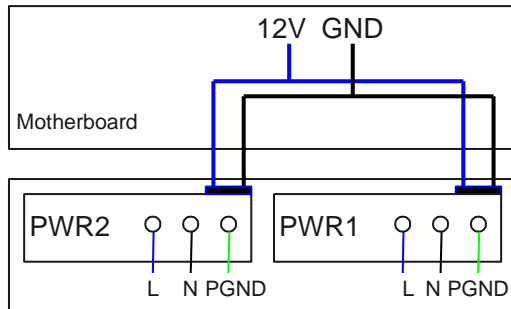
Figure 6-26 Power supply connections of dual DC power modules



NEG: negative cable RTN: positive cable GND: 12 V reference ground

Figure 3-28 shows the power supply connections of dual non-PoE AC power modules. After AC power is transmitted to the PWR module, the PWR module provides 12 V output voltage, and the motherboard provides power for the entire device.

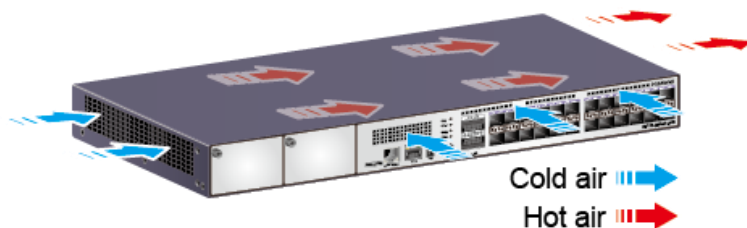
Figure 6-27 Power supply connections of dual non-PoE AC power modules



L: Live wire N: Neutral wire PGND: Protective ground wire GND: 12 V reference ground

Step 6 Heat Dissipation

The S6720S-26Q-EI-24S-DC has built-in fans for forced air cooling. Air flows in from the left side and front panel, and exhausts from the right side.



Step 7 Technical Specifications

Table 3-58 lists technical specifications of the S6720S-26Q-EI-24S-DC.

Table 6-56 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	240 MB
Mean time between failures (MTBF)	69.53 years
Mean time to repair (MTTR)	2
Availability	> 0.99999
Service port surge protection	NA
Power supply surge protection	<ul style="list-style-type: none"> Using AC power modules: ± 6 kV in differential mode, ± 6 kV in common mode Using DC power modules: ± 1 kV in differential mode, ± 2 kV in common mode
Dimensions (W x D x H)	442.0 mm x 220.0 mm x 44.4 mm (17.4 in. x 8.7 in. x 1.74 in.)
Weight	<ul style="list-style-type: none"> Empty: ≤ 5 kg (11.02 lb) Fully loaded: ≤ 6.5 kg (14.33 lb)
Stack ports	<ul style="list-style-type: none"> Any 10GE SFP+ ports (a maximum of 16 physical ports) Any 40GE QSFP+ ports (a maximum of 2 physical ports)
RPS	Not supported
PoE	Not supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz -48 V DC to -60 V DC
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz -36 V DC to -72 V DC
Maximum power consumption	126.3 W

Item	Description
(100% throughput, full speed of fans)	
Operating temperature	0 °C to 45 °C (32 °F to 113 °F) at an altitude of 0-1800 m (0-5096 ft.) NOTE When the altitude is 1800-5000 m (5096-16404 ft.), the highest operating temperature reduces by 1 °C (1.8 °F) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Noise under normal temperature (27 °C, sound power)	< 67.1 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	<ul style="list-style-type: none">• AC power modules configured: 0-5000 m (0-16404 ft.)• DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	<ul style="list-style-type: none">• EMC certification• Safety certification• Manufacturing certification

7 Safety and Regulatory Compliance

Table 7-1 lists the safety and regulatory compliance of S6700/S6720 series.

Table 7-1 S6700/S6720 series safety and regulatory compliance

Certification Category	Description
Safety	<ul style="list-style-type: none"> • IEC 60950-1 • EN 60950-1/A11/A12 • UL 60950-1 • CSA C22.2 No 60950-1 • AS/NZS 60950.1 • CNS 14336-1 • IEC60825-1 • IEC60825-2 • EN60825-1 • EN60825-2
Electromagnetic Compatibility (EMC)	<ul style="list-style-type: none"> • CISPR22 Class A • CISPR24 • EN55022 Class A • EN55024 • ETSI EN 300 386 Class A • CFR 47 FCC Part 15 Class A • ICES 003 Class A • AS/NZS CISPR22 Class A • VCCI Class A • IEC61000-4-2 • ITU-T K 20 • ITU-T K 21 • ITU-T K 44 • CNS13438
Environment	<ul style="list-style-type: none"> • RoHS • REACH • WEEE



NOTE

- EMC: electromagnetic compatibility

- CISPR: International Special Committee on Radio Interference
- EN: European Standard
- ETSI: European Telecommunications Standards Institute
- CFR: Code of Federal Regulations
- FCC: Federal Communication Commission
- IEC: International Electrotechnical Commission
- AS/NZS: Australian/New Zealand Standard
- VCCI: Voluntary Control Council for Interference
- UL: Underwriters Laboratories
- CSA: Canadian Standards Association
- IEEE: Institute of Electrical and Electronics Engineers
- RoHS: restriction of the use of certain hazardous substances
- REACH: Registration Evaluation Authorization and Restriction of Chemicals
- WEEE: Waste Electrical and Electronic Equipment

8 MIB and Standards Compliance

8.1 Supported MIBs

Table 8-1 lists the MIBs supported by S6700/S6720 series.

Table 8-1 S6700/S6720 series MIBs

Category	MIB
Public MIB	<ul style="list-style-type: none"> • BRIDGE-MIB • DISMAN-NSLOOKUP-MIB • DISMAN-PING-MIB • DISMAN-TRACEROUTE-MIB • ENTITY-MIB • EtherLike-MIB • IF-MIB • IP-FORWARD-MIB • IPv6-MIB • LAG-MIB • LLDP-EXT-DOT1-MIB

Category	MIB
	<ul style="list-style-type: none"> • LLDP-EXT-DOT3-MIB • LLDP-MIB • NOTIFICATION-LOG-MIB • NQA-MIB • OSPF-TRAP-MIB • P-BRIDGE-MIB • Q-BRIDGE-MIB • RFC1213-MIB • RIPv2-MIB • RMON2-MIB • RMON-MIB • SAVI-MIB • SNMP-FRAMEWORK-MIB • SNMP-MPD-MIB • SNMP-NOTIFICATION-MIB • SNMP-TARGET-MIB • SNMP-USER-BASED-SM-MIB • SNMPv2-MIB • TCP-MIB • UDP-MIB
Huawei-proprietary MIB	<ul style="list-style-type: none"> • HUAWEI-AAA-MIB • HUAWEI-ACL-MIB • HUAWEI-ALARM-MIB • HUAWEI-ALARM-RELIABILITY-MIB • HUAWEI-BASE-TRAP-MIB • HUAWEI-BRAS-RADIUS-MIB • HUAWEI-BRAS-SRVCFG-EAP-MIB • HUAWEI-BRAS-SRVCFG-STATICUSER-MIB • HUAWEI-CBQOS-MIB • HUAWEI-CDP-COMPLIANCE-MIB • HUAWEI-CONFIG-MAN-MIB • HUAWEI-CPU-MIB • HUAWEI-DAD-TRAP-MIB • HUAWEI-DC-MIB • HUAWEI-DATASYNC-MIB • HUAWEI-DEVICE-MIB • HUAWEI-DHCPR-MIB • HUAWEI-DHCPS-MIB • HUAWEI-DHCP-SNOOPING-MIB • HUAWEI-DIE-MIB

Category	MIB
	<ul style="list-style-type: none"> • HUAWEI-DNS-MIB • HUAWEI-DLDP-MIB • HUAWEI-ELMI-MIB • HUAWEI-ERPS-MIB • HUAWEI-ERRORDOWN-MIB • HUAWEI-ENERGYMNGT-MIB • HUAWEI-EASY-OPERATION-MIB • HUAWEI-ENTITY-EXTENT-MIB • HUAWEI-ENTITY-TRAP-MIB • HUAWEI-ETHARP-MIB • HUAWEI-ETHOAM-MIB • HUAWEI-FLASH-MAN-MIB • HUAWEI-FWD-RES-TRAP-MIB • HUAWEI-GARP-APP-MIB • HUAWEI-GTSM-MIB • HUAWEI-HGMP-MIB • HUAWEI-HWTACACS-MIB • HUAWEI-IF-EXT-MIB • HUAWEI-INFOCENTER-MIB • HUAWEI-IPPOOL-MIB • HUAWEI-IPV6-MIB • HUAWEI-ISOLATE-MIB • HUAWEI-L2IF-MIB • HUAWEI-L2MAM-MIB • HUAWEI-L2VLAN-MIB • HUAWEI_LDT-MIB • HUAWEI-LLDP-MIB • HUAWEI-MAC-AUTHEN-MIB • HUAWEI-MEMORY-MIB • HUAWEI-MFF-MIB • HUAWEI-MFLP-MIB • HUAWEI-MSTP-MIB • HUAWEI-MULTICAST-MIB • HUAWEI-NAP-MIB • HUAWEI-NTPV3-MIB • HUAWEI-PERFORMANCE-MIB • HUAWEI-PORT-MIB • HUAWEI-PORTAL-MIB • HUAWEI-QINQ-MIB • HUAWEI-RIPv2-EXT-MIB

Category	MIB
	<ul style="list-style-type: none"> • HUAWEI-RM-EXT-MIB • HUAWEI-RRPP-MIB • HUAWEI-SECURITY-MIB • HUAWEI-SEP-MIB • HUAWEI-SNMP-EXT-MIB • HUAWEI-SSH-MIB • HUAWEI-STACK-MIB • HUAWEI-SWITCH-L2MAM-EXT-MIB • HUAWEI-SWITCH-SRV-TRAP-MIB • HUAWEI-SYS-MAN-MIB • HUAWEI-TCP-MIB • HUAWEI-TFTPC-MIB • HUAWEI-TRNG-MIB • HUAWEI-XQOS-MIB

8.2 Standard Compliance

Table 8-2 lists the standards the S6700/S6720 series complies with.

Table 8-2 S6700/S6720 series standards compliance

Standard Organization	Standard or Protocol
IETF	<ul style="list-style-type: none"> • RFC 768 User Datagram Protocol (UDP) • RFC 792 Internet Control Message Protocol (ICMP) • RFC 793 Transmission Control Protocol (TCP) • RFC 826 Ethernet Address Resolution Protocol (ARP) • RFC 854 Telnet Protocol Specification • RFC 951 Bootstrap Protocol (BOOTP) • RFC 959 File Transfer Protocol (FTP) • RFC 1058 Routing Information Protocol (RIP) • RFC 1112 Host extensions for IP multicasting • RFC 1157 A Simple Network Management Protocol (SNMP) • RFC 1256 ICMP Router Discovery • RFC 1305 Network Time Protocol Version 3 (NTP) • RFC 1349 Internet Protocol (IP) • RFC 1493 Definitions of Managed Objects for Bridges • RFC 1542 Clarifications and Extensions for the Bootstrap Protocol • RFC 1643 Ethernet Interface MIB • RFC 1757 Remote Network Monitoring (RMON)

Standard Organization	Standard or Protocol
	<ul style="list-style-type: none"> • RFC 1901 Introduction to Community-based SNMPv2 • RFC 1902-1907 SNMP v2 • RFC 1981 Path MTU Discovery for IP version 6 • RFC 2131 Dynamic Host Configuration Protocol (DHCP) • RFC 2328 OSPF Version 2 • RFC 2453 RIP Version 2 • RFC 2460 Internet Protocol, Version 6 Specification (IPv6) • RFC 2461 Neighbor Discovery for IP Version 6 (IPv6) • RFC 2462 IPv6 Stateless Address Auto configuration • RFC 2463 Internet Control Message Protocol for IPv6 (ICMPv6) • RFC 2474 Differentiated Services Field (DS Field) • RFC 2740 OSPF for IPv6 (OSPFv3) • RFC 2863 The Interfaces Group MIB • RFC 2597 Assured Forwarding PHB Group • RFC 2598 An Expedited Forwarding PHB • RFC 2571 SNMP Management Frameworks • RFC 2865 Remote Authentication Dial In User Service (RADIUS) • RFC 3046 DHCP Option82 • RFC 3376 Internet Group Management Protocol, Version 3 (IGMPv3) • RFC 3513 IP Version 6 Addressing Architecture • RFC 3579 RADIUS Support For EAP • RFC 4271 A Border Gateway Protocol 4 (BGP-4) • RFC 4760 Multiprotocol Extensions for BGP-4 • draft-grant-tacacs-02 TACACS+

Standard Organization	Standard or Protocol
IEEE	<ul style="list-style-type: none"> • IEEE 802.1D Media Access Control (MAC) Bridges • IEEE 802.1p Virtual Bridged Local Area Networks • IEEE 802.1Q Virtual Bridged Local Area Networks • IEEE 802.1ad Provider Bridges • IEEE 802.2 Logical Link Control • IEEE Std 802.3 CSMA/CD • IEEE Std 802.3ab 1000BASE-T specification • IEEE Std 802.3ad Aggregation of Multiple Link Segments • IEEE Std 802.3ae 10GE WEN/LAN Standard • IEEE Std 802.3x Full Duplex and flow control • IEEE Std 802.3z Gigabit Ethernet Standard • IEEE802.1ax/IEEE802.3ad Link Aggregation • IEEE 802.3ah Ethernet in the First Mile. • IEEE 802.1ag Connectivity Fault Management • IEEE 802.1ab Link Layer Discovery Protocol • IEEE 802.1D Spanning Tree Protocol • IEEE 802.1w Rapid Spanning Tree Protocol • IEEE 802.1s Multiple Spanning Tree Protocol • IEEE802.1x Port based network access control protocol • IEEE802.3af DTE Power via MIDI • IEEE802.3at DTE Power via the MDI Enhancements
ITU	<ul style="list-style-type: none"> • ITU SG13 Y.17ethoam • ITU SG13 QoS control Ethernet-Based IP Access • ITU-T Y.1731 ETH OAM performance monitor
ISO	<ul style="list-style-type: none"> • ISO 10589 IS-IS Routing Protocol
MEF	<ul style="list-style-type: none"> • MEF 2 Requirements and Framework for Ethernet Service Protection • MEF 9 Abstract Test Suite for Ethernet Services at the UNI • MEF 10.2 Ethernet Services Attributes Phase 2 • MEF 11 UNI Requirements and Framework • MEF 13 UNI Type 1 Implementation Agreement • MEF 15 Requirements for Management of Metro Ethernet Phase 1 Network Elements • MEF 17 Service OAM Framework and Requirements • MEF 20 UNI Type 2 Implementation Agreement • MEF 23 Class of Service Phase 1 Implementation Agreement • Xmodem XMODEM/YMODEM Protocol Reference

**NOTE**

The listed standards and protocols are fully or partially supported by Huawei switches. For details, visit <http://enterprise.huawei.com> or contact your local Huawei sales office.

9 Ordering Information

Table 9-1 Ordering list of S6700/S6720 series Ethernet switches

Product Description
S6700-24-EI Mainframe(24 10GE SFP+,Dual Slots of power,Without Power Module)
S6700-48-EI Mainframe(48 10GE SFP+, Dual Slots of power,Without Power Module)
S6720-30C-EI-24S-AC bundle(24×10GE SFP+ , 2×40GE QSFP+ ports ,with 1 extended slot, with 600W AC power supply)
S6720-54C-EI-48S-AC bundle(48×10GE SFP+ , 2×40GE QSFP+ ports ,with 1 extended slot, with 600W AC power supply)
S6720-30C-EI-24S-DC bundle(24×10GE SFP+ , 2×40GE QSFP+ ports ,with 1 extended slot, with 350W DC power supply)
S6720-54C-EI-48S-DC bundle(48×10GE SFP+ , 2×40GE QSFP+ ports ,with 1 extended slot, with 350W DC power supply)
S6720S-26Q-EI-24S-AC bundle(24×10GE SFP+ , 2×40GE QSFP+ ports , with 170W AC power supply)
S6720S-26Q-EI-24S-DC bundle(24×10GE SFP+ , 2×40GE QSFP+ ports , with 170W DC power supply)
4×40 GE QSFP+ interface card(used in S6720EI series)
Fan box(B,FAN panel side exhaust)
600W AC power module
350W DC power module
170W AC power module
170W DC power module

For more information, visit <http://enterprise.huawei.com> or contact your local Huawei sales office.