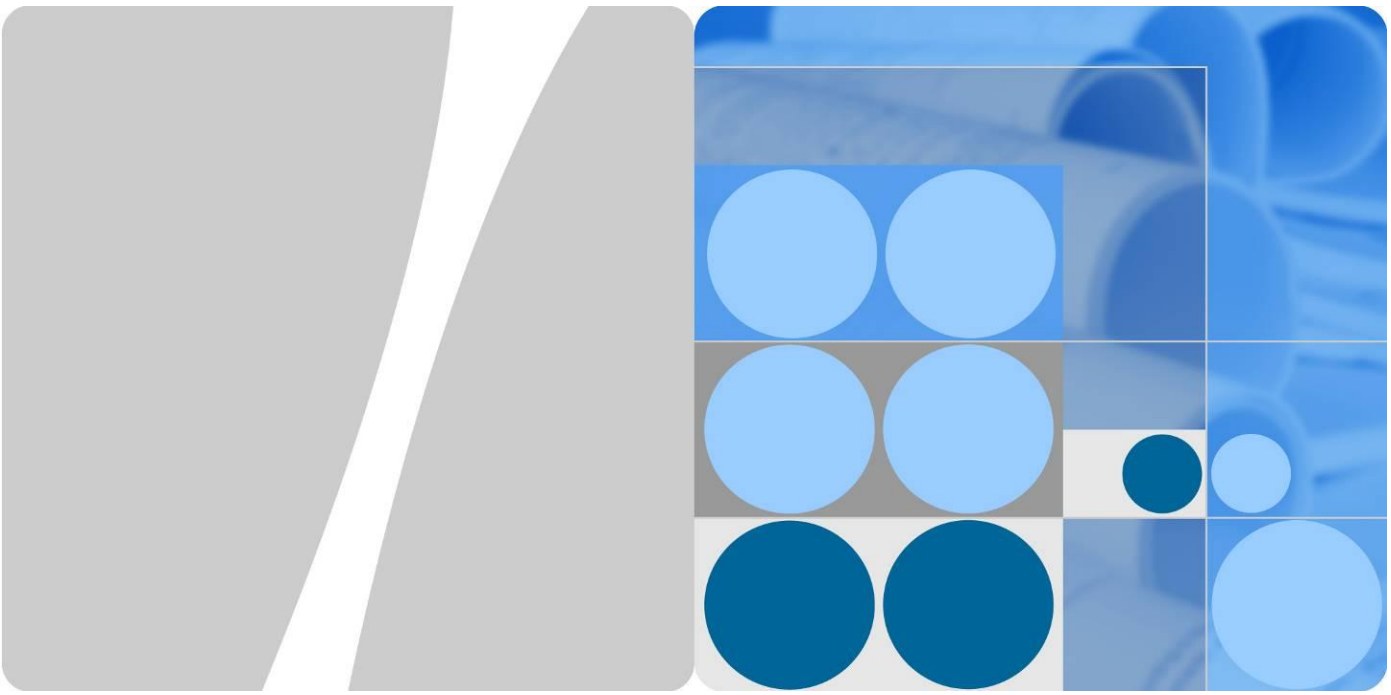

Huawei 5700 Series Switches

S5700-EI Datasheet (Detailed Version)

Issue 1.0

Date 10-10-2015

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1 Introduction

Huawei S5700 series Ethernet switches (S5700 for short) are next-generation energy-saving Gigabit Ethernet switches that function as the access devices to deliver high bandwidth or aggregation device for Ethernet multi-service networks. Built on next-generation high-performance processors and Huawei Versatile Routing Platform (VRP), the S5700 is available in four series: LI, SI, EI, and HI.

The S5700-EI series enhanced gigabit Ethernet switches (S5700-EI for short) are next-generation switches that provide flexible GE access ports and 10GE uplink ports. Built on next-generation high-performance processors and Huawei Versatile Routing Platform (VRP), the S5700-EI provides large table sizes and higher hardware processing capabilities than similar switches.Besides, it provides comprehensive service processing capabilities, enhanced security control, mature IPv6 features, intelligent stack (iStack), allows flexible Ethernet networking, and is easy to operate and maintain. With all these merits, the S5700-EI is widely for aggregation/access in enterprise campus networks or gigabit access in data center networks.

2 Product Overview

2.1 Models and Appearance

Table 2-1 lists all models of S5700-EI and brief description.

Table 2-1 S5700-EI models and description (including S5710-EI and S5720-EI which are part of S5700 EI range of switches)

Appearance	Description
 S5700-28C-EI	• 24 Ethernet 10/100/1000 ports • Subcards supported: 4x1000Base-X SFP subcard, 2x10GE SFP+ subcard, and 4x10GE SFP+ subcard • Double hot swappable AC/DC power supplies • Forwarding performance: 96 Mpps • Switching capacity: 256Gbps
 S5700-28C-EI-24S	• 24 Gig SFP ,4 of which are dual-purpose 10/100/1000 or SFP ports • Subcards supported: 4x1000Base-X SFP subcard, 2x10GE SFP+ subcard, and 4x10GE SFP+ subcard • Double hot swappable AC/DC power supplies • Forwarding performance: 96 Mpps • Switching capacity: 256Gbps
 S5700-28C-PWR-EI	• 24 Ethernet 10/100/1000 ports • Subcards supported: 4x1000Base-X SFP subcard, 2x10GE SFP+ subcard, and 4x10GE SFP+ subcard • Double hot swappable AC power supplies • PoE+ • Forwarding performance: 96 Mpps • Switching capacity: 256Gbps
 S5700-52C-EI	• 48 Ethernet 10/100/1000 ports • Subcards supported: 4x1000Base-X SFP subcard, 2x10GE SFP+ subcard, and 4x10GE SFP+ subcard • Double hot swappable AC/DC power supplies • Forwarding performance: 132 Mpps • Switching capacity: 256Gbps
 S5700-52C-PWR-EI	• 48 Ethernet 10/100/1000 ports • Subcards supported: 4x1000Base-X SFP subcard, 2x10GE SFP+ subcard, and 4x10GE SFP+ subcard • Double hot swappable AC power supplies • PoE+ • Forwarding performance: 132 Mpps • Switching capacity: 256Gbps

Appearance	Description
 S5710-28C-EI	• 24 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP,4 10 Gig SFP+ ports • Subcards supported: 2x10GE SFP+ subcard, 8x10/100/1000BASE-T subcard, and 8×1000Base-X subcard • Double hot swappable AC/DC power supplies • Forwarding performance: 156Mpps • Switching capacity: 416Gbps
 S5710-28C-PWR-EI-AC	• 24 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP,4 10 Gig SFP+ ports • Subcards supported: 2x10GE SFP+ subcard, 8x10/100/1000BASE-T subcard, and 8×1000Base-X subcard • Double hot swappable AC power supplies, including a 580W AC power • PoE+ • Forwarding performance: 156Mpps • Switching capacity: 416Gbps
 S5710-52C-EI	• 48 Ethernet 10/100/1000 ports, 4 10GE SFP+ ports • Subcards supported: 2x10GE SFP+ subcard, 8x10/100/1000BASE-T subcard, and 8×1000Base-X subcard • Double hot swappable AC/DC power supplies • Forwarding performance: 192Mpps • Switching capacity: 416Gbps
 S5710-52C-PWR-EI-AC S5710-52C-PWR-EI	• 48 Ethernet 10/100/1000 ports, 4 10GE SFP+ ports • Subcards supported: 2x10GE SFP+ subcard, 8x10/100/1000BASE-T subcard, and 8×1000Base-X subcard • Double hot swappable AC power supplies(A 580W AC power is included in S5710-52C-PWR-EI-AC model while no power in S5710-52C-PWR-EI) • PoE+ • Forwarding performance: 192Mpps • Switching capacity: 416Gbps

Appearance	Description
 S5720-32P-EI-AC	• 24x10/100/1000Base-T Ethernet ports,4x100/1000Base-X SFP ports, and 4x1000Base-X SFP ports • AC power supply, supporting Redundant Power Supply (RPS), power socket on the front panel • Packet forwarding rate: 48 Mpps • Switching capacity:598 Gbit/s
 S5720-32X-EI-AC S5720-32X-EI-DC	• 24x10/100/1000Base-T Ethernet ports, 4x100/1000Base-X SFP ports, and 4x10G SFP+ ports • AC/DC power supply, supporting RPS, power socket on the front panel • Packet forwarding rate: 102Mpps • Switching capacity:598 Gbit/s
 S5720-32X-EI-24S-AC S5720-32X-EI-24S-DC	• 24x100/1000Base-X SFP ports, 4x10/100/1000Base-T Ethernet ports, and 4x10G SFP+ ports • AC/DC power supply, supporting RPS, power socket on the front panel • Packet forwarding rate: 102 Mpps • Switching capacity:598 Gbit/s
 S5720-36C-EI-28S-AC S5720-36C-EI-28S-DC	• 28x100/1000Base-X SFP ports, 4x combo 10/100/1000Base-T Ethernet ports, and 4x10G SFP+ ports • One extended slot • Double hot swappable AC/DC power supplies, one AC/DC power module is configured by default • Packet forwarding rate:132 Mpps • Switching capacity:598 Gbit/s
 S5720-36C-EI-AC S5720-36C-EI-DC	• 28x10/100/1000Base-T Ethernet ports,4x combo 100/1000Base-X SFP ports, and 4x 10G SFP+ ports • One extended slot • Double hot swappable AC/DC power supplies, one AC/DC power module is configured by default • Packet forwarding rate: 132 Mpps • Switching capacity:598 Gbit/s

Appearance	Description
 S5720-36C-PWR-EI-AC S5720-36C-PWR-EI-DC	• 28x10/100/1000Base-T Ethernet ports, 4x combo 100/1000Base-X SFP ports, and 4x 10G SFP+ ports • PoE+ • One extended slot • Double hot swappable AC/DC power supplies, one AC/DC power module is configured by default • Packet forwarding rate: 132 Mpps • Switching capacity:598 Gbit/s
 S5720-36PC-EI-AC	• 28x10/100/1000Base-T Ethernet ports, 4x combo 100/1000Base-X SFP ports, and 4x 1000Base-X SFP ports • One extended slot • Double hot swappable AC/DC power supplies, one AC power module is configured by default • Packet forwarding rate: 78 Mpps • Switching capacity:598 Gbit/s
 S5720-50X-EI-AC S5720-50X-EI-DC	• 46x10/100/1000Base-T Ethernet ports and 4x10G SFP+ ports • AC/DC power supply, supporting RPS, power socket on the front panel • Packet forwarding rate: 129 Mpps • Switching capacity:598 Gbit/s
 S5720-50X-EI-46S-AC S5720-50X-EI-46S-DC	• 46x100/1000Base-X SFP ports and 4x10G SFP+ ports • AC/DC power supply, supporting RPS, power socket on the front panel • Packet forwarding rate: 129 Mpps • Switching capacity:598 Gbit/s
 S5720-52X-EI-AC	• 48x10/100/1000Base-T Ethernet ports and 4x10G SFP+ ports • AC power supply, supporting RPS • Packet forwarding rate: 132 Mpps • Switching capacity:598 Gbit/s
 S5720-52P-EI-AC	• 48x10/100/1000Base-T Ethernet ports and 4x1000Base-X SFP ports • AC power supply, supporting RPS • Packet forwarding rate: 78 Mpps • Switching capacity:598 Gbit/s

Appearance	Description
 S5720-56C-EI-48S-AC S5720-56C-EI-48S-DC	• 48x100/1000Base-X SFP ports and 4x10G SFP+ ports • One extended slot • Double hot swappable AC/DC power supplies, one AC/DC power module is configured by default • Packet forwarding rate: 162 Mpps • Switching capacity:598 Gbit/s
 S5720-56C-EI-AC S5720-56C-EI-DC	• 48x10/100/1000Base-T Ethernet ports and 4x10G SFP+ ports • One extended slot • Double hot swappable AC/DC power supplies, one AC/DC power module is configured by default • Packet forwarding rate: 162 Mpps • Switching capacity:598 Gbit/s
 S5720-56C-PWR-EI-AC S5720-56C-PWR-EI-AC1 S5720-56C-PWR-EI-DC	• 48x10/100/1000Base-T Ethernet ports and 4x10G SFP+ ports • PoE+ • One extended slot • Double hot swappable AC/DC power supplies, one AC/DC power module is configured by default • Packet forwarding rate: 162 Mpps • Switching capacity:598 Gbit/s
 S5720-56PC-EI-AC	• 48x10/100/1000Base-T Ethernet ports and 4x1000Base-X SFP ports • One extended slot • Double hot swappable AC/DC power supplies, one AC power module is configured by default • Packet forwarding rate: 108 Mpps • Switching capacity:598 Gbit/s

3 Product Characteristics and Advantages

Powerful support for services

• The S5700-EI supports IGMP v1/v2/v3 snooping, IGMP filter, IGMP fast leave, and IGMP proxy. It supports line-speed replication of multicast packets between VLANs, multicast load balancing among member interfaces of a trunk, and controllable multicast, meeting requirements for IPTV services and other multicast services.

• The S5700-EI provides the Multi-VPN-Instance CE (MCE) function to isolate users in different VPNs on a device, ensuring data security and reducing costs.

• The S5710-EI supports multiple MPLS & VPN features, including Label Distribution Protocol (LDP) or Resource Reservation Protocol for Traffic Engineering (RSVP-TE), MPLS TE, VLL, VPLS, and MPLS L3VPN.

Comprehensive reliability mechanisms

• Besides STP, RSTP, and MSTP, the S5700-EI supports enhanced Ethernet reliability technologies such as Smart Link and RRPP (Rapid Ring Protection Protocol), which implement millisecond-level protection switchover and ensure network reliability. It also provides Smart Link multi-instance and RRPP multiinstance to implement load balancing among links, optimizing bandwidth usage.

• The S5700-EI supports enhanced trunk (E-Trunk) that enables a CE to be dual-homed to two PEs (S5700s). E-Trunk greatly enhances link reliability between devices and implements link aggregation between devices. This improves reliability of access devices.

• The S5700-EI 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 non-stop transmission of services. SEP features simplicity, high reliability, fast switchover, easy maintenance, and flexible topology, facilitating network planning and management.

• The S5700-EI 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 S5700-EI supports redundant power supplies, and can use an AC power supply and a DC power simultaneously. Users can choose a single power supply or use two power supplies to ensure device reliability.

• The S5700-EI supports VRRP, and can set up VRRP groups with other Layer 3 switches. VRRP provides redundant routes to ensure stable and reliable communication. Multiple equal-

cost routes to an uplink device can be configured on the S5700-EI to provide route redundancy. When an active route is unreachable, traffic is switched to a backup route.

• The S5700-EI supports Bidirectional Forwarding Detection (BFD) and provides millisecond-level detection for protocols such as OSPF, IS-IS, VRRP, and PIM to improve network reliability. The S5700-EI complies with IEEE 802.3ah and 802.1ag. IEEE 802.3ah defines the mechanism for detecting faults on direct links over the Ethernet in the first mile, and 802.1ag defines the mechanism for end-to-end service fault detection. The S5700-EI supports Y.1731. Besides fast end-to-end service fault detection, the S5700-EI can use the performance measurement tools defined in Y.1731 to monitor network performance, providing accurate data about network quality.

Well-designed QoS policies and security mechanisms

• The S5700-EI implements complex traffic classification based on packet information such as the 5-tuple, IP precedence, ToS, DSCP, IP protocol type, ICMP type, TCP/UDP port number, VLAN ID, Ethernet protocol type. ACLs can be applied to inbound or outbound direction on an interface. The S5700-EI supports a flow-based two-rate three-color CAR. Each port supports eight priority queues and multiple queue scheduling algorithms such as WRR, DRR, SP, WRR+SP, and DRR+SP. All of these ensure the quality of voice, video, and data services.

• The S5700-EI provides multiple security measures to defend against Denial of Service (DoS) attacks, and 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, DHCP request flood attacks. DoS attacks that change the CHADDR field in DHCP packets are also attacks against users.

• The S5700-EI supports DHCP snooping, which discards invalid packets that do not match any binding entries, such as ARP spoofing packets and IP spoofing packets. This prevents man-in-the-middle attacks to campus networks that hackers initiate by using ARP packets. The interface connected to a DHCP server can be configured as a trusted interface to protect the system against bogus DHCP server attacks.

• The S5700-EI supports strict ARP learning, which prevents ARP spoofing attacks that will exhaust ARP entries. It also provides IP source check to prevent DoS attacks caused by MAC address spoofing, IP address spoofing, and MAC/IP spoofing.

• The S5700-EI supports 802.1x authentication, MAC address authentication, and combined authentication on a per port basis, as well as Portal authentication on a per VLANIF interface basis. The S5700-EI also supports NAC. The S5700-EI 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 applied to users dynamically.

• The S5700-EI 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 packet flooding that occurs when MAC addresses of users cannot be found in the MAC address table.

Fine-grained traffic management

• The S5710-EI supports NetStream. The NetStream module supports V5, V8, and V9 packet formats and provides various traffic analysis functions, such as real-time traffic sampling, dynamic report generation, traffic attribute analysis, and traffic exception report. The Netstream module enables administrators to monitor network status in real time and provides applications and analysis functions including potential fault detection, effective fault

rectification, fast problem handling, and security monitoring, to help customers optimize network structure and adjust resource deployment.

• The S5700-EI supports the Sampled Flow (sFlow) function, which uses a sampling mechanism to obtain statistics about traffic forwarded on a network and sends the statistics to the Collector in real time. The Collector analyzes traffic statistics to help customers manage network traffic efficiently. The S5700-EI integrates the sFlow Agent module and uses hardware for traffic monitoring. Unlike traffic monitoring through port mirroring, sFlow does not degrade network performance during traffic monitoring.

Easy deployment and maintenance free

• The S5700-EI supports automatic configuration, plug-and-play, and batch remote upgrade. These capabilities simplify device management and maintenance and reduce maintenance costs. The S5700-EI supports SNMP v1/v2c/v3 and provides flexible methods for managing devices. Users can manage the S5700-EI using the CLI and Web NMS. The NQA function helps users with network planning and upgrading. In addition, the S5700-EI supports NTP, SSH v2, HWTACACS+, RMON, log hosts, and portbased traffic statistics.

• EasyDeploy: The Commander collects information about the topology of the client connecting to the Commander and saves client startup information based on the topology. The client can be replaced without configuration. Configuration and scripts can be delivered to the client in batches. In addition, the configuration delivery result can be queried. The Commander can collect and display power consumption on the entire network.

• The S5700-EI supports the GARP VLAN Registration Protocol (GVRP), which dynamically distributes, registers, and propagates VLAN attributes to reduce manual configuration workloads of network administrators and to ensure correct VLAN configuration. In a complex network topology, GVRP simplifies VLAN configuration and reduces network communication faults caused by incorrect VLAN configuration.

• The S5700-EI supports 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 usually used on an enterprise intranet to isolate user interfaces from each other but allow them to communicate with server interfaces. This function prevents communication between network devices connected to certain interfaces or interface groups but allows the devices to communicate with the default gateway.

PoE function

• The S5700-EI PWR can use PoE power supplies with different power levels to provide -48V DC power for Powered Devices (PDs) such as IP phones, WLAN APs, and Bluetooth APs. In its role as Power Sourcing Equipment (PSE), the S5700-EI PWR complies with IEEE 802.3af and 802.3at (PoE+) and can work with PDs that are incompatible with 802.3af or 802.3at. Each port provides a maximum of 30 W power, complying with IEEE 802.3at. The PoE+ function increases the maximum power of each port and implements intelligent power management for high-power consumption applications. This facilitates the use of PDs. PoE ports can work in power-saving mode. The S5700-EI PWR provides improved PoE solutions. Users can configure whether and when a PoE port supplies power.

High scalability

• The S5700-EI supports intelligent stacking (iStack). Multiple S5700-EI switches can be connected with stack cables to set up a stack, which functions as a virtual switch. A stack consists of a master switch, a backup switch, and several slave switches. The backup switch takes over services when the master switch fails, reducing service interruption time. Stacks support intelligent upgrade so that users do not need to change the software version of a

switch when adding it to a stack. The iStack function allows users to connect multiple switches with stack cables to expand system capacity. These switches can be managed using a single IP address, which greatly reduces the costs of system expansion, operation, and maintenance. Compared with traditional networking technologies, iStack has advantages in scalability, reliability, and system architecture.

Various IPv6 features

• The S5700-EI supports IPv4/IPv6 dual stack and can migrate from an IPv4 network to an IPv6 network. S5700-EI 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 S5700-EI can be deployed on IPv4 networks, IPv6 networks, or networks that run both IPv4 and IPv6. This makes networking flexible and enables easy migration from IPv4 to IPv6.

Huawei S5720-EI series have the following characteristics.

- **Easy operation and maintenance**

  The S5720-EI supports Super Virtual Fabric (SVF), which virtualizes the network architecture consisting of "core/aggregation switches + access switches + APs" into one device for management. SVF provides the industry's simplest network management solution, which simplifies device management and enables access switches and wireless APs to be plug-and-play. SVF Supports profile-based service configuration and automatic delivery of the configuration on core devices to access devices, implementing centralized device management and control, easy service configuration, and flexible configuration adjustment. The S5720-EI functions as a client switch.

  The model with prepositive power sockets can be installed in the 300 mm deep cabinet, and can be maintained through the front panel. This simplifies operation and maintenance (O&M). The cabinet can be placed against the wall or back to back, meeting requirements of small cabinets and limited equipment room space.

  The S5720-EI supports Easy Operation, a solution that provides zero-touch deployment, replacement of faulty devices without additional configuration, USB-based deployment, batch configuration, and batch remote upgrade. The Easy Operation solution facilitates device deployment, upgrade, service provisioning, and other management and maintenance operations, and also greatly reduces O&M costs. The S5720-EI can be managed using Simple Network Management Protocol (SNMP) v1, v2c, and v3, command line interface (CLI), web-based network management system, or Secure Shell (SSH) v2.0. Additionally, it supports remote network monitoring (RMON), multiple log hosts, port traffic statistics collection, and network quality analysis, which help in network consolidation and reconstruction.

- **Powerful service processing capabilities, comprehensive security control**

  The S5720-EI supports the multi-VPN-instance CE (MCE) function, which allows users in different VPNs to connect. The switch supports large multi-instance routing tables to isolate users in different VPNs. Users in multiple VPNs connect to a provider edge (PE) device through the same physical port on the switch, which reduces the cost on VPN network deployment. The S5720EI also supports MPLS feature in hardware.

  The S5720-EI provides excellent quality of service (QoS) capabilities and supports queue scheduling and congestion control algorithms.it can assign traffic to a queue based on the MAC address,IP protocol type,and TCP/UDP Ports.Additionally, it adopts innovative priority queuing and multi-level scheduling mechanisms to implement fine-

grained scheduling of data flows, meeting service quality requirements of different user terminals and services.

With enhanced network admission control (NAC) functions, the S5720-EI supports 802.1x authentication, MAC address authentication, Portal authentication, and hybrid authentication, and can dynamically delivery user policies such as VLANs, QoS policies, and access control lists (ACL). It also supports user management based on user groups. You can specify authentication-free IP network segments and enable redirection of HTTP connection requests to realize fast deployment of clients. If clients do not support HTTP access, the S5720-EI can trigger Portal authentication for the clients.

The S5720-EI provides a series of mechanisms to defend against DoS attacks and user-targeted attacks. DoS attacks are targeted at switches and include SYN flood, Land, Smurf, and ICMP flood attacks. User-targeted attacks include bogus DHCP server attacks, IP/MAC address spoofing, DHCP request flood, and change of the DHCP CHADDR value.

The S5720-EI sets up and maintains a DHCP snooping binding table, and discards the packets that do not match the table entries. You can specify DHCP snooping trusted and untrusted ports to ensure that users connect only to the authorized DHCP server.

The S5720-EI supports strict ARP learning, which protects a network against from ARP spoofing attacks to ensure normal network access.

- **Flexible Ethernet networking**

  In addition to traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), the S5720-EI supports Huawei-developed Smart Ethernet Protection (SEP) technology and the latest Ethernet Ring Protection Switching (ERPS) standard. SEP is a ring protection protocol specific to the Ethernet link layer, and applies to various ring network topologies, such as open ring topology, closed ring topology, and cascading ring topology. This protocol is reliable, easy to maintain, and implements fast protection switching. ERPS is defined in ITU-T G.8032. It implements millisecond-level protection switching based on traditional Ethernet MAC and bridging functions.

  The S5720-EI supports Smart Link and Virtual Router Redundancy Protocol (VRRP), which implement backup of uplinks. One S5720-EI switch can connect to multiple aggregation switches through multiple links, significantly improving reliability of access devices.

  The S5720-EI supports LLDP as a link layer protocol used for interconnected devices to obtain the connection information of each other. Furthermore,it can support LLDP-MED to enable the switches to get some layer 2 information of a phone and automatically allocate certain network parameters including VLAN,policy and QoS and so on to the phone.

  In addition, the S5720-EI provides multiple connection fault detection mechanisms, including Ethernet OAM (IEEE 802.3ah/802.1ag /ITU Y.1731) and Bidirectional Forwarding Detection (BFD).

- **Intelligent stack (iStack)**

  The S5720-EI supports the iStack function that combines multiple switches into a logical switch. Member switches in a stack implement redundancy backup to improve device reliability and use inter-device link aggregation to improve link reliability. iStack provides high network scalability. You can increase ports, bandwidth, and processing capacity of a stack by simply adding member switches to the stack. iStack also simplifies device configuration and management. After a stack is set up, up to 9 physical switches can be virtualized into one logical device. You can log in to any stack member switch to manage all the member switches in the stack. S5720-EI can join a stack through its dedicated stacking cards for lower latency, and through its service ports that are currently

supported by the two 10GE ports on the 2x10G interface cards exclusively for longer distance connections..

- **Mature IPv6 technologies**

  The S5720-EI uses the mature, stable VRP software platform and supports IPv4/IPv6 dual stacks, IPv6 routing protocols (RIPng, OSPFv3, BGP4+, and IS-IS for IPv6), and IPv6 over IPv4 tunnels including manual, 6-to-4, and Intra-Site Automatic Tunnel Addressing Protocol (ISATAP) tunnels. With these IPv6 features, the S5720-EI can be deployed on a pure IPv4 network, a pure IPv6 network, or a shared IPv4/IPv6 network, helping realize IPv4-to-IPv6 transition.

4 Product Specifications

4.1 Functions and Features

Table 4-1 lists the functions and features available on the S5720-EI.

Table 4-1

Table 4-2 Functions and features available on the S5720-EI

Feature	Specification
MAC address table	IEEE 802.1d 64K MAC address entries MAC address learning and aging Static, dynamic, and blackhole MAC address entries Packet filtering based on source MAC addresses
VLAN	4K VLANs Guest VLAN and voice VLAN GVRP MUX VLAN VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports 1:1 and N:1 VLAN mapping

	VLAN-based transparent transmission of protocol packets
Jumbo frame	12K
Ring protection	RRPP ring topology and RRPP multi-instance Smart Link tree topology and Smart Link multi-instance, providing millisecond-level protection switchover Smart Ethernet Protection (SEP),G.8032 Ethernet Ring Protection Switching (ERPS) STP (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s) BPDU protection, root protection, and loop protection BPDU tunnel
IP routing	Static routing, RIPv1/2, RIPng, OSPF, OSPFv3, IS-IS, IS-ISv6, BGP, BGP4+, ECMP, and policy-based routing
IPv6 features	Neighbor Discovery (ND) Path maximum transmission unit (PMTU) IPv6 Ping, IPv6 Tracert, and IPv6 Telnet 6 to4 tunnel, ISATAP tunnel, and manually configured tunnel ACLs based on source IPv6 addresses, destination IPv6 addresses, Layer 4 ports, or protocol types Multicast Listener Discovery (MLD) v1/v2 snooping
Multicast forwarding	IGMP v1/v2/v3 snooping and IGMP fast leave Multicast forwarding in a VLAN and multicast replication between VLANs Multicast load splitting among trunk member ports Controllable multicast Layer 2 multicast control Port-based multicast traffic statistics collection IGMPv1/v2/v3, Protocol Independent Multicast Sparse Mode (PIM-SM), and Protocol Independent Multicast Dense Mode (PIM-DM), and Protocol Independent Multicast Source-Specific Multicast (PIM-SSM) Multicast Source Discovery Protocol (MSDP)
QoS/ACL	Inbound and outbound traffic rate limiting on a port Packet redirection Broadcast storm control Port-based traffic policing and two-rate and three-color CAR Eight queues per port,Weighted round robin (WRR),

	deficit round robin (DRR), strict priority (SP), WRR+SP, and DRR+SP queue scheduling algorithms Weighted random early detection (WRED) Re-marking of the 802.1p priority and DSCP value of packets Packet filtering based on Layer 2 to Layer 4 information, including source MAC addresses, destination MAC addresses, source IP addresses, destination IP addresses, TCP/UCD source/destination ports, protocol types, and VLAN IDs Per queue rate limiting and interface traffic shaping 1:1,N:1,N:4 port mirroring VLAN mirroring
Security features	Hierarchical user management and password protection DoS attack defense, ARP attack defense, and ICMP attack defense Binding of the IP address, MAC address, interface number, and VLAN ID of a user Port isolation, port security, and sticky MAC MAC Forced Forwarding (MFF) Blackhole MAC address entries Limit on the number of learned MAC addresses IEEE 802.1x authentication and the limit on the number of users on an interface AAA authentication, RADIUS authentication, HWTACACS+ authentication, and NAC SSH v2.0 Hypertext Transfer Protocol Secure (HTTPS) CPU defense Blacklist and whitelist MACSec ready
Access security	DHCP Relay DHCP Server DHCP Snooping DHCP Client DHCP Security
Port aggregation	LACP Up to 64 trunk groups Up to 8 member interfaces in each trunk group
Reliability	Ethernet OAM (IEEE 802.3ah and 802.1ag) ITU-Y.1731 BFD for BGP/IS-IS/OSPF/static route

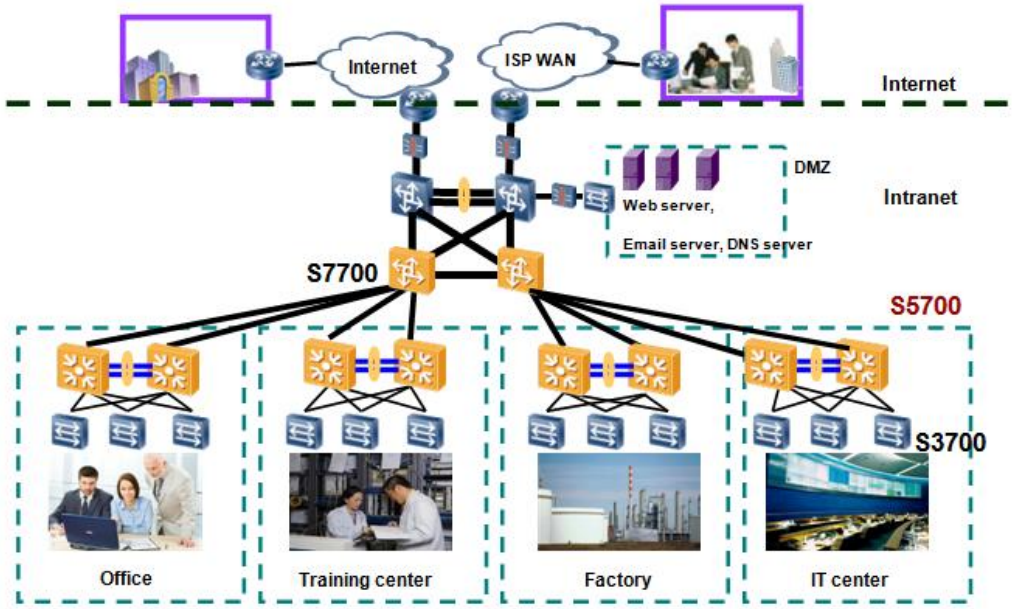
Super Virtual Fabric (SVF)	Working as an SVF client that is plug-and-play with zero configuration Automatically loading the system software package and patches of clients One-click and automatic delivery of service configurations Supports independent running client
Management and Maintenance	iStack Virtual cable test SNMPv1/v2c/v3 RMON/RMON2 Web-based network management system System logs and multi-level alarms sFlow LLDP/LLDP-MED SCP (Secure Copy Protocol), TFTP, FTP Store dual software images and configuration files 802.3az Energy Efficient Ethernet (EEE)
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 Large-scale enterprise network

The S5700-EI can be used as an access switch in a large-sized enterprise network or as an aggregation device in a small- or medium-sized campus network. It supports link aggregation and dual-homing to improve network reliability.

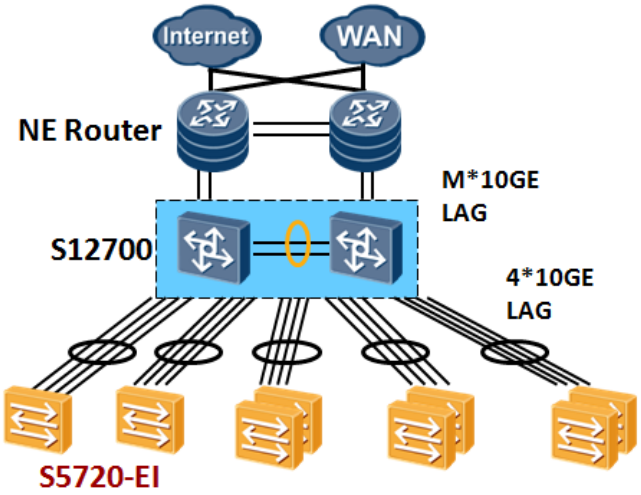
Figure 5-1 Position of the S5700-EI/S5720-EI on a large-scale enterprise network



5.2 Data center network

As shown in Figure 5-2, The S5700-EI (including S5710-EI and S5720-EI) can be used in a data center to connect to gigabit servers. In a data center, S5720-EI switches connect to upstream aggregation switches through bundled links. If many servers are deployed in a rack, multiple S5700-EI (including S5710-EI and S5720-EI) switches can set up a stack system to simplify management and improve network reliability.

Figure 5-2 Position of the S5720-EI on a data center network



6 Product Details

6.1 S5700-EI

6.1.1 S5700-28C-EI

Step 1 Version Mapping

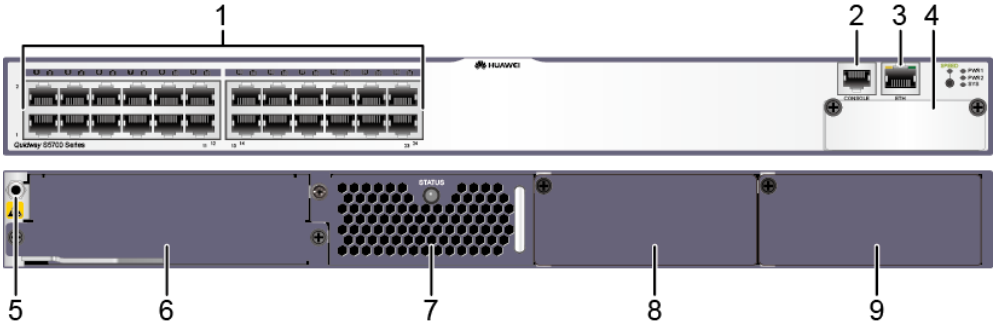
Table 3-420 lists the mapping between the S5700-28C-EI and software versions.

Table 6-1 Version mapping

Series	Model	Software Version
S5700-EI	S5700-28C-EI	V100R005C01 to V200R005C03 **NOTE** This model does not match V200R003C02 or V200R003C10.

Step 2 Appearance and Structure

Figure 6-1 S5700-28C-EI appearance



1	Twenty-four 10/100/1000BASE-T ports	2	One console port
3	ETH management port	4	Front card slot **NOTE** Card supported: • 7.4 ES5D000G4S01 (4-Port GE SFP Front Optical Interface Card)

			• 7.2 ES5D000X2S00 (2-Port 10GE SFP+ Front Optical Interface Card) • 7.3 ES5D000X4S01 (4-Port 10GE SFP+ Front Optical Interface Card)
5	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.	6	Rear card slot **NOTE** Card supported: • 7.20 ES5D00ETPC00 (Stack Rear Card) • 7.21 ES5D00ETPB00 (Extended Rear Card)
7	Fan slot **NOTE** Applicable fan module: CX7E1FANA fan module	8	Power module slot 2 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module
9	Power module slot 1 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module	-	-

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-421 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-2 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

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 3-422.

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 3-423 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

Step 4 Indicator Description

Figure 6-2 Indicators on the S5700-28C-EI

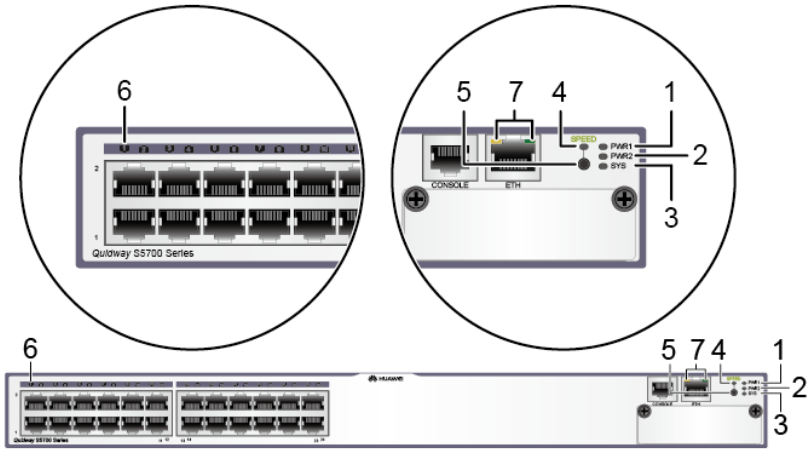


Table 6-5 Indicator Description

No.	Indicator/Button	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.
		Red	Steady on: The switch has two power modules installed. Any of the following situations occurs in power module slot 1: • 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 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.
		Green	Steady on: A power module is installed in power module slot 2 and is working normally.

No.	Indicator/Button	Color	Description
		Red	Steady on: The switch has two power modules installed. Any of the following situations occurs in power module slot 2: • 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	• Steady on: The system is not running normally or is starting. • Slow blinking: The system is running normally.
		Yellow	Steady on: The system is performing self-check during startup.
		Red	Steady on: The system does not work normally after registration, or a fan alarm or temperature alarm has been generated.
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	-	• 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. If you do not press the button within 45

No.	Indicator/Button	Color	Description
			seconds, the mode indicator restores to status mode.
6	Service port indicator	Meanings of service port indicators vary in different modes. For details, see Table 3-425.	
7	ETH indicator	-	Off: No link is established on the port.
		Green	Steady on: The port is connected.
		Yellow	Blinking: The port is sending or receiving data.

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

Display Mode	Color	Description
Status	Green	• Off: The port is not connected or has been shut down. • Steady on: The port is connected. • Blinking: The port is sending or receiving data.
Speed	Green	• Off: The port is not connected or has been shut down. • Steady on: 10M/100M/1000M port: The port is operating at 10/100 Mbit/s. 1000M/10GE port: The port is operating at 1000 Mbit/s. • Blinking: 10M/100M/1000M port: The port is operating at 1000 Mbit/s. 1000M/10GE port: The port is operating at 10 Gbit/s.
Stack	Green	• Off: Port indicators do not show the stack ID of the switch. • If the indicator is steady on, the switch is not a master switch: ◆ 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 are steady on, the stack ID of the switch is 0. • If the indicator is blinking, the switch is a master switch:

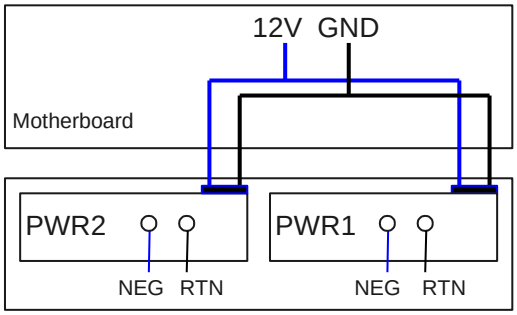
Display Mode	Color	Description
		◆ If the indicator of a port is blinking, the number of this port is the stack ID of the switch. ◆ If the first nine port indicators are blinking, the stack ID of the switch is 0.

Step 5 Power Supply Configuration

The S5700-28C-EI can use a single power module or double power modules for 1+1 power redundancy. In versions prior to V200R005C00, the AC and DC power modules cannot be configured on the same device, while in V200R005C00 and later versions, they can be configured on the same device.

Figure 3-155 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.

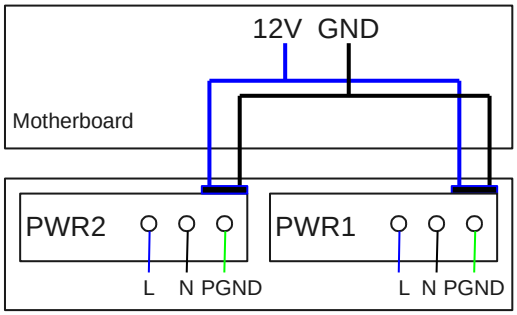
Figure 6-3 Power supply connections of dual DC power modules



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

Figure 3-156 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 S5700-28C-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 3-426 lists specifications of the S5700-28C-EI.

Table 6-7 Technical specifications

Item	Description
Memory (RAM)	256 MB
Flash	32 MB
Mean time between failures (MTBF)	53.11 years when a 2-port 10GE interface card is configured, 68.33 years when a 4-port GE front card is configured, 25.52 years when a 4-port 10GE front card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	±2 kV in common mode
Power supply surge protection	• 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 43.6 mm (17.4 in. x 16.5 in. x 1.72 in.)
Weight	• Empty: ≤ 5 kg (11.02 lb)

Item	Description
	• Fully loaded: ≤ 8.5 kg (18.74 lb)
Stack ports	Two stack ports available on each stack card
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 (100% throughput, full speed of fans)	60 W
Operating temperature	0 ℃ to 50 ℃ (32 ℉ to 122 ℉)
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 41 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	• AC power modules configured: 0-5000 m (0-16404 ft.) • DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.1.2 S5700-28C-EI-24S

Step 1 Version Mapping

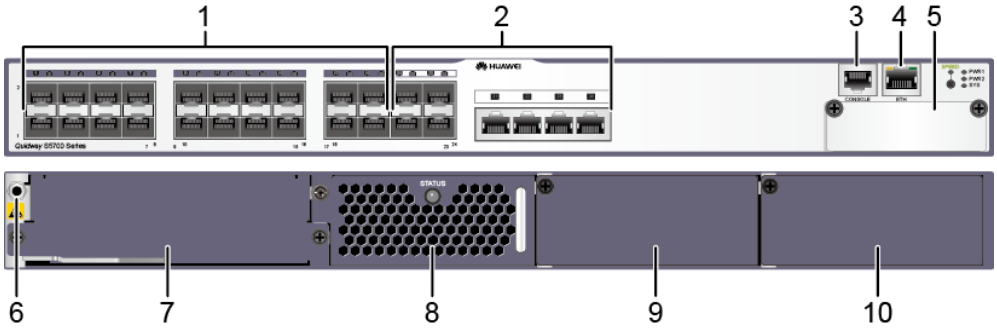
Table 3-427 lists the mapping between the S5700-28C-EI-24S and software versions.

Table 6-8 Version mapping

Series	Model	Software Version
S5700-EI	S5700-28C-EI-24S	V100R005C01 to V200R005C03 **NOTE** This model does not match V200R003C02 or V200R003C10.

Step 2 Appearance and Structure

Figure 6-5 S5700-28C-EI-24S appearance



1	Twenty 100/1000BASE-X ports Applicable modules: • FE optical module • GE optical module • GE-CWDM optical module • GE copper module	2	Four combo ports (10/100/1000BASE-T + 100/1000BASE-X) Modules applicable to combo optical ports: • FE optical module • GE optical module • GE-CWDM optical module
3	One console port	4	ETH management port
5	Front card slot **NOTE** Card supported: • 7.4 ES5D000G4S01 (4-Port GE SFP Front Optical Interface Card) • 7.2 ES5D000X2S00 (2-Port 10GE SFP+ Front Optical Interface Card) • 7.3 ES5D000X4S01 (4-Port 10GE SFP+ Front Optical Interface Card)	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	Rear card slot **NOTE** Card supported: • 7.20 ES5D00ETPC00 (Stack Rear Card) • 7.21 ES5D00ETPB00 (Extended Rear Card)	8	Fan slot **NOTE** Applicable fan module: CX7E1FANA fan module
9	Power module slot 2 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module	10	Power module slot 1 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module

Step 3 Port Description

100/1000BASE-X port

A 100/1000BASE-X port can send and receive data at 100 Mbit/s or 1000 Mbit/s. Table 3-428 describes the attributes of a 100/1000BASE-X port.

Table 6-9 Attributes of a 100/1000BASE-X port

Attribute	Description
Connector type	LC/PC
Optical interface attributes	Depend on the optical module used
Standards compliance	IEEE802.3z
Working mode	100/1000 Mbit/s auto-sensing Full-duplex

Combo port

A combo port refers to a pair of ports consisting of an optical Ethernet port and an electrical Ethernet port on the panel. Each combo port matches only one internal forwarding port. A combo port can be configured as an electrical port or an optical port, but only one port can be active at a time. When one port is active, the other port is shut down.

NOTE

By default, a combo port works in auto mode, in which the port type is determined as follows:

- If the optical port has no optical module installed and the electrical port has no network cable connected, the port type depends on which port is connected first. If the electrical port is connected by a network cable first, the electrical port is used for data switching. If the optical port has an optical module installed first, the optical port is used for data switching.
- If the electrical port has a network cable connected and is in Up state, the electrical port is still used for data switching when the optical port has an optical module installed.
- If the optical port, no matter in Up or Down state, has an optical module installed, the optical port is still used for data switching when the electrical port has a network cable connected.
- If the optical port has an optical module installed and the electrical port has a network cable connected, the optical port is used for data switching after the switch restarts.

You can configure a combo port as an electrical or optical port using the **combo-port** command.

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 3-429.

Table 6-10 Attributes of a console port

Attribute	Description
Connector type	RJ45
Standards	RS-232

Attribute	Description
compliance	
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 3-430 describes the attributes of an ETH management port.

Table 6-11 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

Step 4 Indicator Description

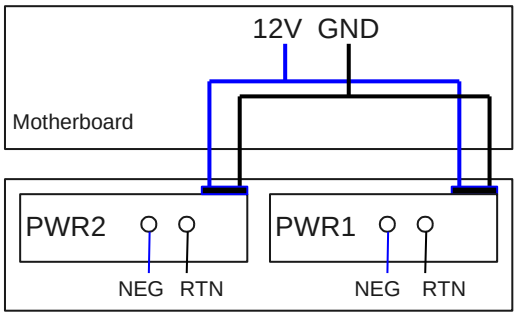
The S5700-28C-EI-24S has the same types of indicators as the S5700-28C-EI. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5700-28C-EI-24S can use a single power module or double power modules for 1+1 power redundancy. In versions prior to V200R005C00, the AC and DC power modules cannot be configured on the same device, while in V200R005C00 and later versions, they can be configured on the same device.

Figure 3-158 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.

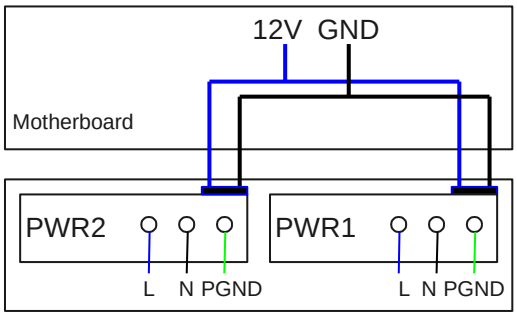
Figure 6-6 Power supply connections of dual DC power modules



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

Figure 3-159 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 S5700-28C-EI-24S 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 3-431 lists specifications of the S5700-28C-EI-24S.

Table 6-12 Technical specifications

Item	Description
Memory (RAM)	256 MB
Flash	32 MB
Mean time between failures (MTBF)	52.80 years when no interface card is configured, 41.33 years when a 2-port 10GE interface card is configured, 50.00 years when a 4-port GE front card is configured, 26.52 years when a 4-port 10GE front card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	±2 kV in common mode
Power supply surge protection	• 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 43.6 mm (17.4 in. x 16.5 in. x 1.72 in.)
Weight	• Empty: ≤ 5 kg (11.02 lb) • Fully loaded: ≤ 8.5 kg (18.74 lb)
Stack ports	Two stack ports available on each stack card
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 (100% throughput, full speed of fans)	63 W
Operating temperature	0 ℃ to 50 ℃ (32 ℉ to 122 ℉)

Item	Description
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 41 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	• AC power modules configured: 0-5000 m (0-16404 ft.) • DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

S5700-28C-PWR-EI

Step 8 Version Mapping

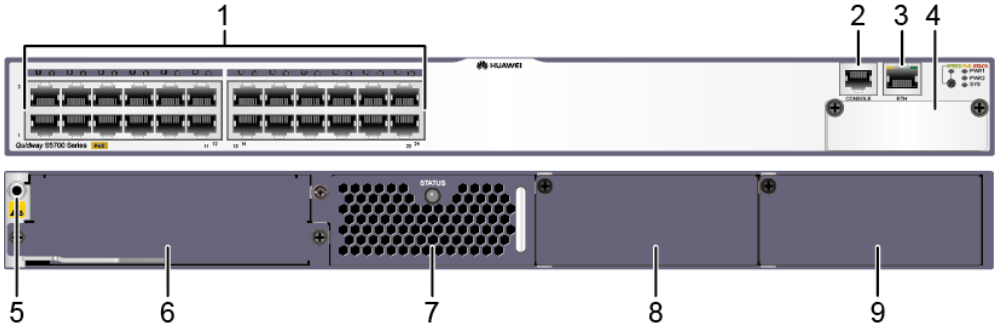
Table 3-432 lists the mapping between the S5700-28C-PWR-EI and software versions.

Table 6-13 Version mapping

Series	Model	Software Version
S5700-EI	S5700-28C-PWR-EI	V100R005C01 to V200R005C03 **NOTE** This model does not match V200R003C02 or V200R003C10.

Step 9 Appearance and Structure

Figure 6-8 S5700-28C-PWR-EI appearance



1	Twenty-four PoE+ 10/100/1000BASE-T ports	2	One console port
3	ETH management port	4	Front card slot **NOTE** Card supported: • 7.4 ES5D000G4S01 (4-Port GE SFP Front Optical Interface Card) • 7.2 ES5D000X2S00 (2-Port 10GE SFP+ Front Optical Interface Card) • 7.3 ES5D000X4S01 (4-Port 10GE SFP+ Front Optical Interface Card)
5	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.	6	Rear card slot **NOTE** Card supported: • 7.20 ES5D00ETPC00 (Stack Rear Card) • 7.21 ES5D00ETPB00 (Extended Rear Card)
7	Fan slot **NOTE** Applicable fan module: CX7E1FANA fan module	8	Power module slot 2 **NOTE** Applicable power modules: • 250 W AC PoE power module • 500 W AC PoE power module
9	Power module slot 1 **NOTE** Applicable power modules: • 250 W AC PoE power module • 500 W AC PoE power module	-	-

Step 10 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-433 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-14 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission	100 m

Attribute	Description
distance	

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 3-434.

Table 6-15 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 3-435 describes the attributes of an ETH management port.

Table 6-16 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

Step 11 Indicator Description

Figure 6-9 Indicators on the S5700-28C-PWR-EI

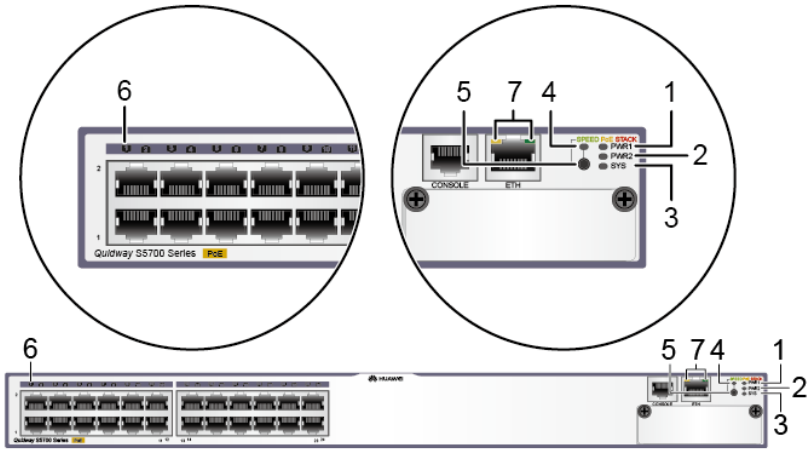


Table 6-17 Description of indicators on the switch

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: • 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 system power and PoE power are faulty.
		Yellow	Steady on: If a single power module is installed, the PoE power is out of range. If dual power modules are installed, the system power or PoE power is out of range.
2	PWR2: power	-	Off: No power module is available in power module slot 2, or the switch has

Number	Indicator/Button	Color	Description
	supply indicator		only one power module but the power module does not work normally.
		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: • 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 system power and PoE power are faulty.
		Yellow	Steady on: If a single power module is installed, the PoE power is out of range. If dual power modules are installed, the system power or PoE power is out of range.
3	SYS: system status indicator	-	Off: The system is not running.
		Green	• Steady on: The system is not operating properly or is starting. • Slow blinking: The system is running normally.
		Yellow	Steady on: The system is performing self-check during startup.
		Red	Steady on: The system does not work normally after registration, or a fan or temperature alarm has been generated.
4	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.

Number	Indicator/Button	Color	Description
		Yellow	Steady on: The service port indicators show the PoE status. After 45 seconds, the service port indicators automatically restore to the status mode.
5	Mode switch button	-	• 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 yellow and the service port indicators show the PoE status. • When you press this button a fourth time, the mode indicator turns off. If you do not press the button within 45 seconds, the mode indicator restores to status mode.
6	Service port indicator	Meanings of service port indicators vary in different modes. For details, see Table 3-437.	
7	ETH indicator	-	Off: No link is established on the port.
		Green	Steady on: The port is connected.
		Yellow	Blinking: The port is sending or receiving data.

Table 6-18 Description of service port indicators in different modes

Display Mode	Color	Description
Status	Green	• Off: The port is not connected or has been shut down. • Steady on: The port is connected. • Blinking: The port is sending or receiving data.
Speed	Green	• Off: The port is not connected or has been shut down. • Steady on: 10M/100M/1000M port: The port is operating at 10/100 Mbit/s. 1000M/10GE port: The port is

Display Mode	Color	Description
		operating at 1000 Mbit/s. • Blinking: 10M/100M/1000M port: The port is operating at 1000 Mbit/s. 1000M/10GE port: The port is operating at 10 Gbit/s.
PoE	Green	• Off: The port does not provide PoE power. • Steady on: The port is providing PoE power. • Blinking: The PD connected to the port is not a standard PD or its power exceeds the maximum power or power threshold of the port.
Stack	Green	• Off: The STCK mode is not selected. • If the indicator is steady on, the switch is not a master switch: ◆ 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 the indicator is blinking, the switch is a master switch: ◆ 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 12 Power Supply Configuration

The S5700-28C-PWR-EI is a PoE switch. It has two power module slots, each of which can have a 500 W or 250 W power module installed. A power module can provide 369.6 W or 123.2 W of PoE power for powered devices (PDs). Table 3-438 lists its power supply configurations.

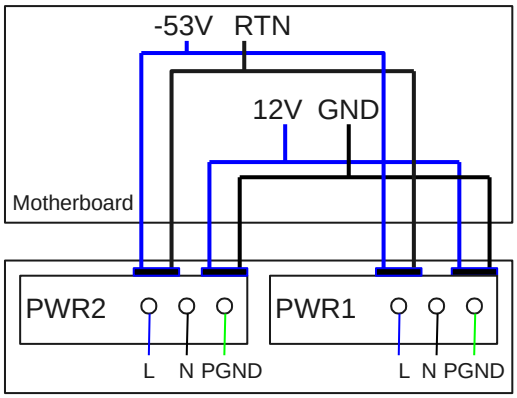
Table 6-19 Power supply configurations

Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
250 W	–	123.2 W	• 802.3af (15.4 W per port): 8

Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
			• 802.3at (30 W per port): 4
500 W	–	369.6 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 12
250 W	250 W	246.4 W	• 802.3af (15.4 W per port): 16 • 802.3at (30 W per port): 8
500 W	500 W	369.6 W (with PCB of version A for the S5700-28C-PWR-EI)	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 12
		739.2 W (with PCB of version B for the S5700-28C-PWR-EI)	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 24

Figure 3-162 shows the power supply mode of dual AC PoE power modules (PWR1 and PWR2). After AC power is transmitted to the PWR modules, the PWR modules provide 12 V and -53 V outputs. The outputs are combined on the motherboard, which then provides 12 V voltage for the switch and -53 V voltage for the PDs.

Figure 6-10 Power supply by dual AC PoE power modules



L: live wire | N: neutral wire | PGND: protection ground | GND: 12 V reference ground | RTN: -53 V reference ground

Step 13 Heat Dissipation

The S5700-28C-PWR-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 14 Technical Specifications

Table 3-439 lists specifications of the S5700-28C-PWR-EI.

Table 6-20 Technical specifications

Item	Description
Memory (RAM)	256 MB
Flash	32 MB
Mean time between failures (MTBF)	52 years when a 2-port 10GE interface card is configured, 55.4 years when a 4-port GE front card is configured, 32.92 years when a 4-port 10GE front card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	±1 kV in common mode
Power supply surge protection	±2 kV in differential mode, ±4 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	• Empty: ≤ 5 kg (11.02 lb) • Fully loaded: ≤ 8.5 kg (18.74 lb)
Stack ports	Two stack ports available on each stack card
RPS	Not supported
PoE	Supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz
Maximum power consumption	842 W (system power consumption: 102 W, PoE: 740 W)

Item	Description
(100% throughput, 100% PoE loads, full speed of fans)	
Operating temperature	0 ℃ to 50 ℃ (32 ℉ to 122 ℉)
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 45 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.1.3 S5700-52C-EI

Step 1 Version Mapping

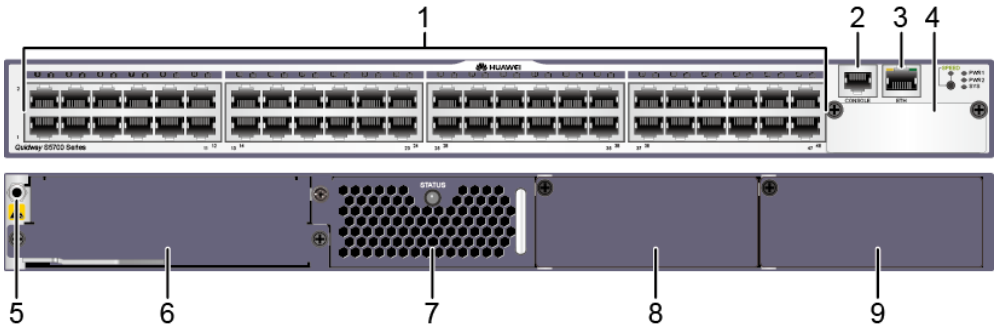
Table 3-440 lists the mapping between the S5700-52C-EI and software versions.

Table 6-21 Version mapping

Series	Model	Software Version
S5700-EI	S5700-52C-EI	V100R005C01 to V200R005C03 **NOTE** This model does not match V200R003C02 or V200R003C10.

Step 2 Appearance and Structure

Figure 6-11 S5700-52C-EI appearance



1	Forty-eight 10/100/1000BASE-T ports	2	One console port
3	ETH management port	4	Front card slot **NOTE** Card supported: • 7.4 ES5D000G4S01 (4-Port GE SFP Front Optical Interface Card) • 7.2 ES5D000X2S00 (2-Port 10GE SFP+ Front Optical Interface Card) • 7.3 ES5D000X4S01 (4-Port 10GE SFP+ Front Optical Interface Card)
5	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.	6	Rear card slot **NOTE** Card supported: • 7.20 ES5D00ETPC00 (Stack Rear Card) • 7.21 ES5D00ETPB00 (Extended Rear Card)
7	Fan slot **NOTE** Applicable fan module: CX7E1FANA fan module	8	Power module slot 2 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module
9	Power module slot 1 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module	-	-

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-441 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-22 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

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 3-442.

Table 6-23 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 3-443 describes the attributes of an ETH management port.

Table 6-24 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

Step 4 Indicator Description

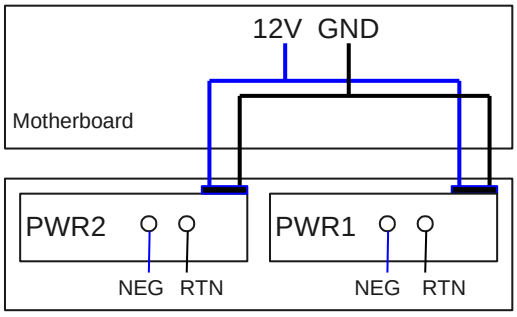
The S5700-52C-EI has the same types of indicators as the S5700-28C-EI. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5700-52C-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 pluggable AC and DC power modules simultaneously. In V200R005C00 and later versions, the switch supports mixing of pluggable AC and DC power modules.

Figure 3-164 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.

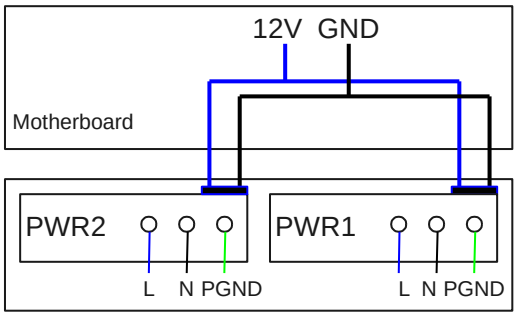
Figure 6-12 Power supply connections of dual DC power modules



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

Figure 3-165 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 6-13 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 S5700-52C-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 3-444 lists specifications of the S5700-52C-EI.

Table 6-25 Technical specifications

Item	Description
Memory (RAM)	256 MB
Flash	32 MB
Mean time between failures (MTBF)	46.05 years when a 2-port 10GE interface card is configured, 57.08 years when a 4-port GE front card is configured, 25.58 years when a 4x10GE front card is configured
Mean time to repair (MTTR)	2 years

Item	Description
Availability	> 0.99999
Service port surge protection	Common mode: ±2 kV
Power supply surge protection	• 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 43.6 mm (17.4 in. x 16.5 in. x 1.72 in.)
Weight	• Empty: ≤ 5 kg (11.02 lb) • Fully loaded: ≤ 8.5 kg (18.74 lb)
Stack ports	Two stack ports available on each stack card
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 (100% throughput, full speed of fans)	88 W
Operating temperature	0 ℃ to 50 ℃ (32 ℉ to 122 ℉)
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 41 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	• AC power modules configured: 0-5000 m (0-16404 ft.) • DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.1.4 S5700-52C-PWR-EI

Step 1 Version Mapping

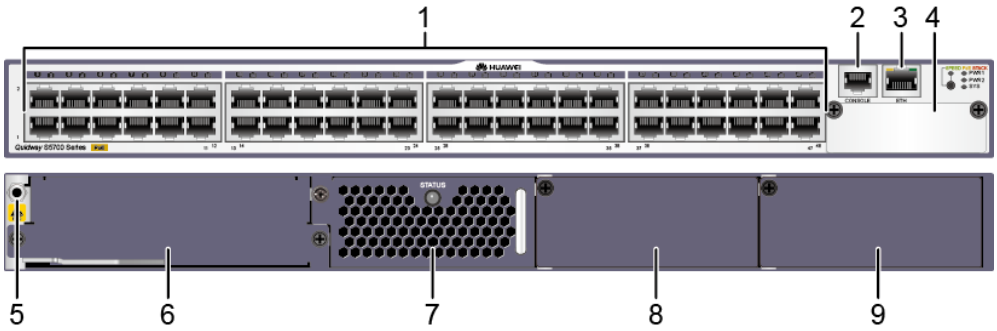
Table 3-445 lists the mapping between the S5700-52C-PWR-EI and software versions.

Table 6-26 Version mapping

Series	Model	Software Version
S5700-EI	S5700-52C-PWR-EI	V100R005C01 to V200R005C03 **NOTE** This model does not match V200R003C02 or V200R003C10.

Step 2 Appearance and Structure

Figure 6-14 S5700-52C-PWR-EI appearance



1	Forty-eight PoE+ 10/100/1000BASE-T ports	2	One console port
3	ETH management port	4	Front card slot **NOTE** Card supported: • 7.4 ES5D000G4S01 (4-Port GE SFP Front Optical Interface Card) • 7.2 ES5D000X2S00 (2-Port 10GE SFP+ Front Optical Interface Card) • 7.3 ES5D000X4S01 (4-Port 10GE SFP+ Front Optical Interface Card)
5	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.	6	Rear card slot **NOTE** Card supported: • 7.20 ES5D00ETPC00 (Stack Rear Card) • 7.21 ES5D00ETPB00 (Extended Rear Card)

7	Fan slot **NOTE** Applicable fan module: CX7E1FANA fan module	8	Power module slot 2 **NOTE** Applicable power modules: • 250 W AC PoE power module • 500 W AC PoE power module
9	Power module slot 1 **NOTE** Applicable power modules: • 250 W AC PoE power module • 500 W AC PoE power module	-	-

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-446 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-27 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

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 3-447.

Table 6-28 Attributes of a console port

Attribute	Description
Connector type	RJ45
Standards compliance	RS-232
Working mode	Duplex Universal Asynchronous Receiver/Transmitter (UART)

Attribute	Description
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 3-448 describes the attributes of an ETH management port.

Table 6-29 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

Step 4 Indicator Description

The S5700-52C-PWR-EI has the same types of indicators as the S5700-28C-PWR-EI. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5700-52C-PWR-EI is a PoE switch. It has two power module slots, each of which can have a 500 W or 250 W power module installed. A power module can provide 369.6 W or 123.2 W of PoE power for powered devices (PDs). Table 3-449 lists its power supply configurations.

Table 6-30 Power supply configurations

Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
250 W	–	123.2 W	• 802.3af (15.4 W per port): 8 • 802.3at (30 W per port): 4

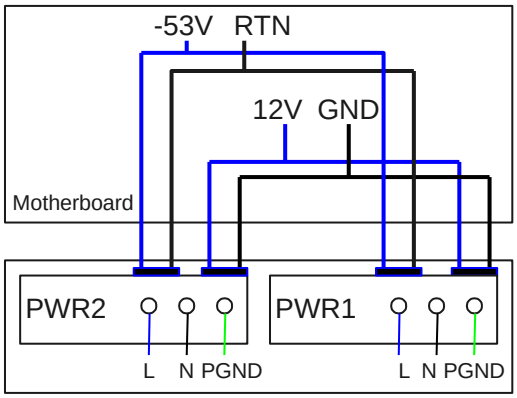
Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
500 W	–	369.6 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 12
250 W	250 W	246.4 W	• 802.3af (15.4 W per port): 16 • 802.3at (30 W per port): 8
500 W	500 W	739.2 W	• 802.3af (15.4 W per port): 48 • 802.3at (30 W per port): 24

NOTE

When a switch has two power modules installed, the two power modules work in redundancy mode to provide power for the chassis and in load balancing mode to provide power for PDs.

Figure 3-167 shows the power supply mode of dual AC PoE power modules (PWR1 and PWR2). After AC power is transmitted to the PWR modules, the PWR modules provide 12 V and -53 V outputs. The outputs are combined on the motherboard, which then provides 12 V voltage for the switch and -53 V voltage for the PDs.

Figure 6-15 Power supply by dual AC PoE power modules



L: live wire | N: neutral wire | PGND: protection ground | GND: 12 V reference ground | RTN: -53 V reference ground

Step 6 Heat Dissipation

The S5700-52C-PWR-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 3-450 lists specifications of the S5700-52C-PWR-EI.

Table 6-31 Technical specifications

Item	Description
Memory (RAM)	256 MB
Flash	32 MB
Mean time between failures (MTBF)	44.8 years when a 2-port 10GE interface card is configured, 66.8 years when a 4-port GE front card is configured, 29.89 years when a 4x10GE front card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±1 kV
Power supply surge protection	±2 kV in differential mode, ±4 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	• Empty: ≤ 5 kg (11.02 lb) • Fully loaded: ≤ 8.5 kg (18.74 lb)
Stack ports	Two stack ports available on each stack card
RPS	Not supported
PoE	Supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz

Item	Description
Maximum power consumption (100% throughput, 100% PoE loads, full speed of fans)	930 W (system power consumption: 190 W, PoE: 740 W)
Operating temperature	0 ℃ to 50 ℃ (32 ℉ to 122 ℉)
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 45 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.2 S5710-EI

6.2.1 S5710-28C-EI

Step 1 Version Mapping

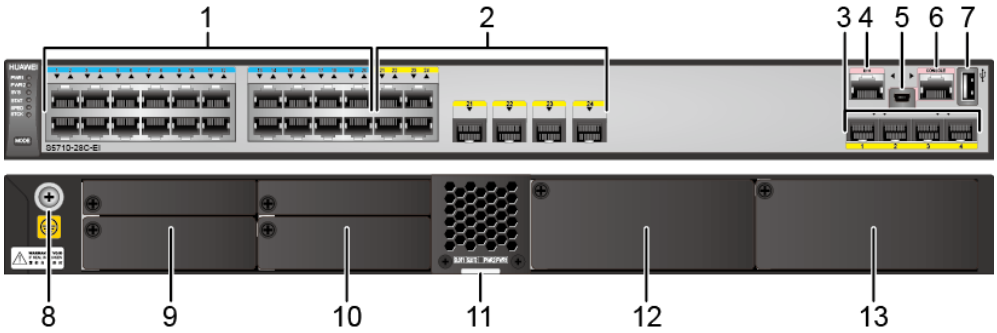
Table 3-451 lists the mapping between the S5710-28C-EI chassis and software versions.

Table 6-32 Version mapping

Series	Model	Software Version
S5710-EI	S5710-28C-EI	V200R001C00 to V200R005C02 **NOTE** This model does not match V200R001C01, V200R003C02, V200R003C10, or V200R005C01.

Step 2 Appearance and Structure

Figure 6-16 S5710-28C-EI appearance



1	Twenty 10/100/1000BASE-T ports	2	Four combo ports (10/100/1000BASE-T + 100/1000BASE-X) Modules applicable to the combo optical ports: • FE optical module • GE optical module • GE-CWDM optical module • GE-DWDM optical module
3	Four 10GE SFP+ ports Applicable modules and cables: • GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module • 10GE SFP+ optical module • 10GE-CWDM optical module (applicable in V200R005C00) • 1 m, 3 m, and 10 m SFP+ high-speed copper cables • 3 m and 10 m AOC cables (applicable in V200R003C00 and later versions)	4	ETH management port
5	One mini USB port	6	One console port
7	One USB port	8	Ground screw **NOTE** It is used with a ground cable.
9	Rear card slot 1 **NOTE** Card supported:	10	Rear card slot 2 **NOTE** Card supported:

	• 7.9 ES5D21G08S00 (8-Port GE SFP Rear Optical Interface Card) • 7.10 ES5D21G08T00 (8-Port GE Rear Electrical Interface Card) • 7.11 ES5D21X02S00 (2-Port GE SFP/10GE SFP+ Rear Optical Interface Card)		• 7.9 ES5D21G08S00 (8-Port GE SFP Rear Optical Interface Card) • 7.10 ES5D21G08T00 (8-Port GE Rear Electrical Interface Card) • 7.11 ES5D21X02S00 (2-Port GE SFP/10GE SFP+ Rear Optical Interface Card)
11	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.	12	Power module slot 2 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module
13	Power module slot 1 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module	-	-

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-452 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-33 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

Combo port

A combo port refers to a pair of ports consisting of an optical Ethernet port and an electrical Ethernet port on the panel. Each combo port matches only one internal forwarding port. A combo port can be configured as an electrical port or an optical port, but only one port can be active at a time. When one port is active, the other port is shut down.

NOTE

By default, a combo port works in auto mode, in which the port type is determined as follows:

- If the optical port has no optical module installed and the electrical port has no network cable connected, the port type depends on which port is connected first. If the electrical port is connected by a network cable first, the electrical port is used for data switching. If the optical port has an optical module installed first, the optical port is used for data switching.
- If the electrical port has a network cable connected and is in Up state, the electrical port is still used for data switching when the optical port has an optical module installed.
- If the optical port, no matter in Up or Down state, has an optical module installed, the optical port is still used for data switching when the electrical port has a network cable connected.
- If the optical port has an optical module installed and the electrical port has a network cable connected, the optical port is used for data switching after the switch restarts.

You can configure a combo port as an electrical or optical port using the **combo-port** command.

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 3-453 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-34 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 3-454.

Table 6-35 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-455 describes the attributes of an ETH management port.

Table 6-36 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 3-456 lists the USB flash drives applicable to a switch.

Table 6-37 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.

Capacity	Vendor	Model	Remarks
	Hewlett-Packard	v225w	Huawei does not offer this USB flash drive, and you must buy it from other vendors.
	STEC	SLUFD8GU2TUI	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 6-17 Indicators on the S5710-28C-EI

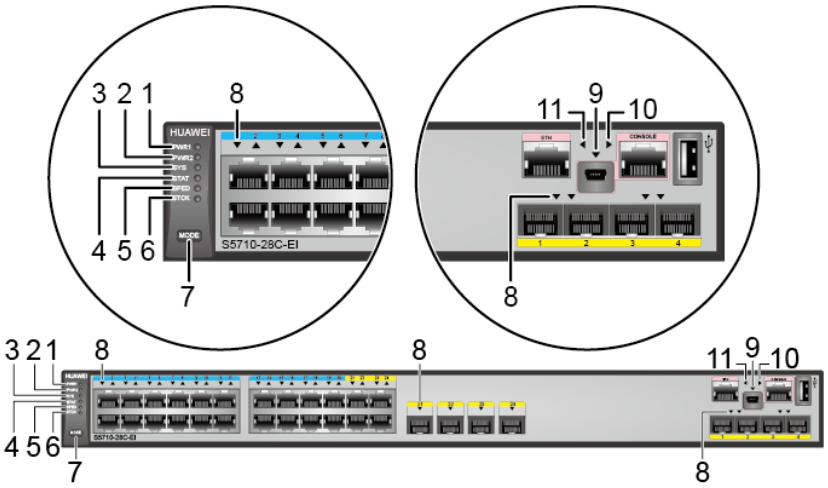


Table 6-38 Description of indicators on the switch

Number	Indicator	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.
		Yellow	Steady on: The switch has two power modules installed. Any of the following situations occurs in power module slot 1: • A power module is available in this slot but its power switch is in the OFF position.

Number	Indicator	Color	Description
			• 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.
		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: • 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	• Fast blinking: The system is starting or is copying the system software and configuration file from a USB flash drive. • Slow blinking: The system is running properly.
		Yellow	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	• 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 failed to be upgraded after a USB flash drive is inserted.
4	STAT: status indicator	Green	• Off: The status mode is not selected. • Steady on: The status mode (default mode) is selected. If the status mode

Number	Indicator	Color	Description
			is selected, the service port indicator shows the port link or activity state.
5	SPED: speed indicator	Green	• Off: The speed mode is not selected. • Steady on: The speed mode is selected. If the speed mode is selected, the service port indicator shows the port speed state. After 45 seconds, the service port indicators automatically restore to the status mode.
6	STCK: stack indicator **NOTE** This indicator has different states and meanings in different versions. Here is the indicator states and meaning in versions earlier than V200R003C00.	Green	• Off: The stack mode is not selected. • Steady on: The service port indicators show the stack information. After 45 seconds, the service port indicators automatically restore to the status mode. • Blinking: The switch is the master switch in a stack or a standalone switch.
	STCK: stack indicator **NOTE** This indicator has different states and meanings in different versions. Here is the indicator states and meaning in V200R003C00 and later versions.	Green	If you are not changing the indicator mode (default): • Off: The switch is in stack standby or slave state or the stacking function is not enabled on the switch. • Blinking: The switch is a stack master switch or a standalone switch with the stacking function enabled.
			If you are changing the indicator mode: • Off: The stack mode is not selected. • Steady on: 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. After 45 seconds, the service port indicators automatically restore to the status mode.
7	MODE: mode	-	• When you press this button once, the service port indicators change to the

Number	Indicator	Color	Description
	switch button		speed mode and show the speed of each service port. • When you press this 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 this button a third time, the STAT indicator turns green and the service port indicators restore to the default mode. 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.
8	Service port indicator • GE electrical ports: The ports are numbered from bottom to top and left to right, starting with 1. • GE/10GE optical ports: Each port has an indicator above it.	Meanings of service port indicators vary in different modes. For details, see Table 3-458.	
9	Mini USB indicator	Green	• Off: The Mini USB port is not active, and the console port is active. • Steady on: The Mini USB port is active. When this indicator is on, the console indicator is off.
10	Console indicator	Green	• Off: The console port is not active, and the Mini USB port is active. • Steady on (default): The console port is active. When this LED is on, the Mini USB port indicator is off.
11	ETH indicator	Green	• Off: No link is established on the port. • Steady on: The port is connected.

Number	Indicator	Color	Description
			• Blinking: The port is sending or receiving data.

Table 6-39 Description of service port indicators in different modes (one indicator for each port)

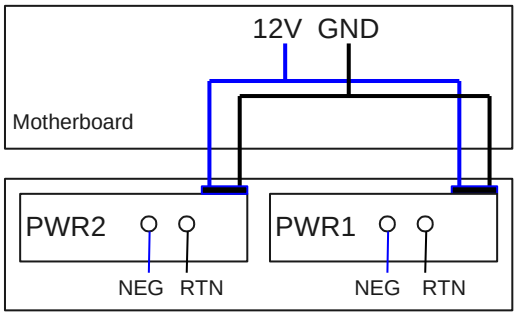
Display Mode	Color	Description
Status	Green	• Off: The port is not connected or has been shut down. • Steady on: The port is connected. • Blinking: The port is sending or receiving data.
Speed	Green	• Off: The port is not connected or has been shut down. • Steady on: 10M/100M/1000M port: The port is operating at 10/100 Mbit/s. 1000M/10GE port: The port is operating at 1000 Mbit/s. • Blinking: 10M/100M/1000M port: The port is operating at 1000 Mbit/s. 1000M/10GE port: The port is operating at 10 Gbit/s.
Stack	Green	• Off: Port indicators do not show the stack ID of the switch. • If the indicator is steady on, the switch is not a master switch: ◆ 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 are steady on, the stack ID of the switch is 0. • If the indicator is blinking, the switch is a master switch: ◆ 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 are blinking, the stack ID of the switch is 0.

Step 5 Power Supply Configuration

The S5710-28C-EI uses pluggable power modules. It can be configured with a single power module or double power modules for 1+1 power redundancy. Pluggable AC and DC power modules can be used together in the same switch.

Figure 3-170 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.

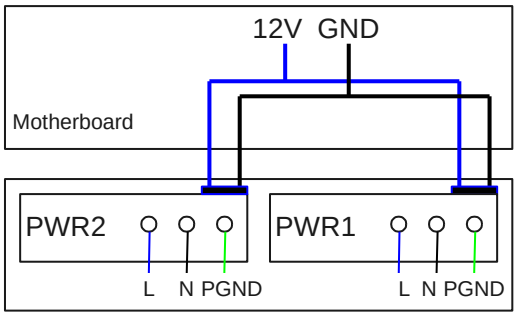
Figure 6-18 Power supply connections of dual DC power modules



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

Figure 3-171 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 6-19 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 S5710-28C-EI has built-in fans for forced air cooling. The airflow direction is left-to-right.

Step 7 Technical Specifications

Table 3-459 lists specifications of the S5710-28C-EI.

Table 6-40 Technical specifications

Item	Description
Memory (RAM)	512 MB
Flash	• V200R001: 64 MB • V200R002 and later versions: 200 MB
Mean time between failures (MTBF)	55.98 years when an 8-port GE optical card is configured, 54.93 years when an 8-port GE electrical card is configured, 52.69 years when a 2-port 10GE interface card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±2 kV
Power supply surge protection	• 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 1.75 in.)
Weight	• Empty: ≤ 6 kg (13.23 lb) • Fully loaded: ≤ 10 kg (22.05 lb)
Stack ports	Four fixed 10GE SFP+ ports on the front panel or ports on the 2-port 10GE rear card
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

Item	Description
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 (100% throughput, full speed of fans)	98 W
Operating temperature	0 ℃ to 50 ℃ (32 ℉ to 122 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 53.9 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	• AC power modules configured: 0-5000 m (0-16404 ft.) • DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.2.2 S5710-28C-PWR-EI-AC

Step 1 Version Mapping

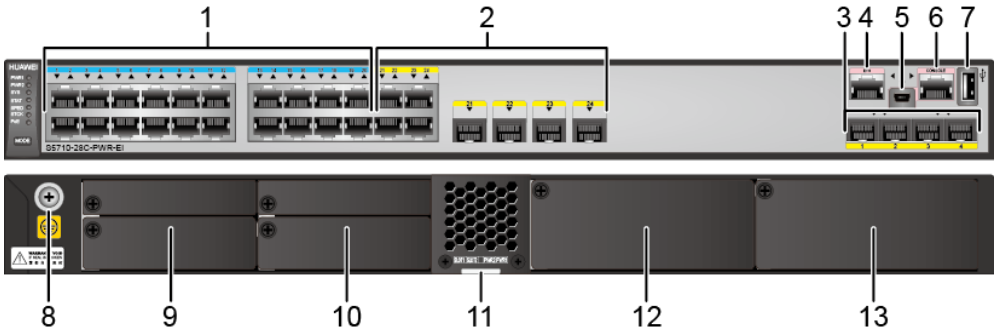
Table 3-460 lists the mapping between the S5710-28C-PWR-EI-AC chassis and software versions.

Table 6-41 Version mapping

Series	Model	Software Version
S5710-EI	S5710-28C-PWR-EI-AC	V200R002C00 to V200R005C02 **NOTE** This model does not match V200R003C02, V200R003C10, or V200R005C01.

Step 2 Appearance and Structure

Figure 6-20 S5710-28C-PWR-EI-AC appearance



1	Twenty PoE+ 10/100/1000BASE-T ports	2	Four combo ports (10/100/1000BASE-T (PoE+) + 100/1000BASE-X) Modules applicable to the combo optical ports: • FE optical module • GE optical module • GE-CWDM optical module • GE-DWDM optical module
3	Four 10GE SFP+ ports Applicable modules and cables: • GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module • 10GE SFP+ optical module • 10GE-CWDM optical module (applicable in V200R005C00) • 1 m, 3 m, and 10 m SFP+ high-speed copper cables • 3 m and 10 m AOC cables (applicable in V200R003C00 and later versions)	4	ETH management port
5	One mini USB port	6	One console port
7	One USB port	8	Ground screw **NOTE** It is used with a ground cable.
9	Rear card slot 1 **NOTE** Card supported:	10	Rear card slot 2 **NOTE** Card supported:

	• 7.9 ES5D21G08S00 (8-Port GE SFP Rear Optical Interface Card) • 7.10 ES5D21G08T00 (8-Port GE Rear Electrical Interface Card) • 7.11 ES5D21X02S00 (2-Port GE SFP/10GE SFP+ Rear Optical Interface Card)		• 7.9 ES5D21G08S00 (8-Port GE SFP Rear Optical Interface Card) • 7.10 ES5D21G08T00 (8-Port GE Rear Electrical Interface Card) • 7.11 ES5D21X02S00 (2-Port GE SFP/10GE SFP+ Rear Optical Interface Card)
11	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.	12	Power module slot 2 **NOTE** Applicable power module: • 580 W AC PoE power module
13	Power module slot 1 **NOTE** Applicable power module: • 580 W AC PoE power module	-	-

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-461 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-42 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

Combo port

A combo port refers to a pair of ports consisting of an optical Ethernet port and an electrical Ethernet port on the panel. Each combo port matches only one internal forwarding port. A combo port can be configured as an electrical port or an optical port, but only one port can be active at a time. When one port is active, the other port is shut down.

NOTE

By default, a combo port works in auto mode, in which the port type is determined as follows:

- If the optical port has no optical module installed and the electrical port has no network cable connected, the port type depends on which port is connected first. If the electrical port is connected by a network cable first, the electrical port is used for data switching. If the optical port has an optical module installed first, the optical port is used for data switching.
- If the electrical port has a network cable connected and is in Up state, the electrical port is still used for data switching when the optical port has an optical module installed.
- If the optical port, no matter in Up or Down state, has an optical module installed, the optical port is still used for data switching when the electrical port has a network cable connected.
- If the optical port has an optical module installed and the electrical port has a network cable connected, the optical port is used for data switching after the switch restarts.

You can configure a combo port as an electrical or optical port using the **combo-port** command.

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 3-462 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

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 3-463.

Table 6-44 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-464 describes the attributes of an ETH management port.

Table 6-45 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 3-465 lists the USB flash drives applicable to a switch.

Table 6-46 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.

Capacity	Vendor	Model	Remarks
	Hewlett-Packard	v225w	Huawei does not offer this USB flash drive, and you must buy it from other vendors.
	STEC	SLUFD8GU2TUI	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 6-21 Indicators on the S5710-28C-PWR-EI-AC

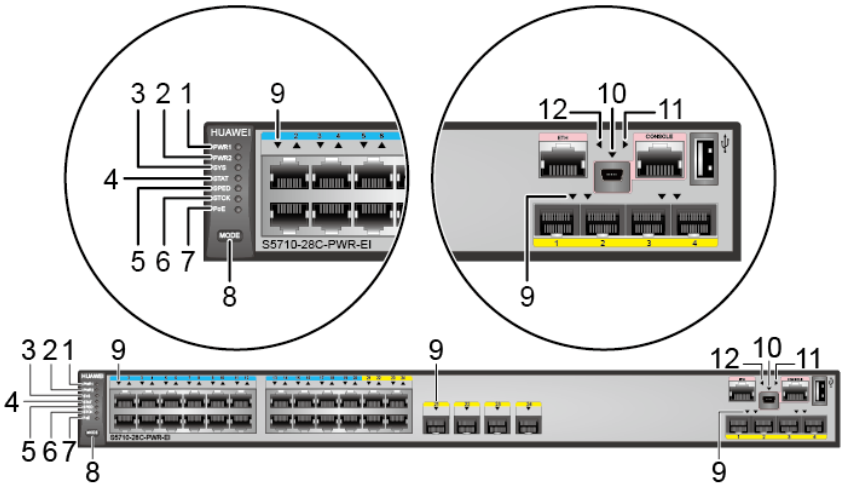


Table 6-47 Description of indicators on the switch

Number	Indicator	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.
		Yellow	Steady on: The switch has two power modules installed. Any of the following situations occurs in power module slot 1: • A power module is available in this slot but its power switch is in the OFF position.

Number	Indicator	Color	Description
			• 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.
		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: • 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	• Fast blinking: The system is starting or is copying the system software and configuration file from a USB flash drive. • Slow blinking: The system is running properly.
		Yellow	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	• 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 failed to be upgraded after a USB flash drive is inserted.
4	STAT: status indicator	Green	• Off: The status mode is not selected. • Steady on: The status mode (default mode) is selected. If the status mode

Number	Indicator	Color	Description
			is selected, the service port indicator shows the port link or activity state.
5	SPED: speed indicator	Green	• Off: The speed mode is not selected. • Steady on: The speed mode is selected. If the speed mode is selected, the service port indicator shows the port speed state. After 45 seconds, the service port indicators automatically restore to the status mode.
6	STCK: stack indicator **NOTE** This indicator has different states and meanings in different versions. Here is the indicator states and meaning in versions earlier than V200R003C00.	Green	• Off: The stack mode is not selected. • Steady on: The service port indicators show the stack information. After 45 seconds, the service port indicators automatically restore to the status mode. • Blinking: The switch is the master switch in a stack or a standalone switch.
	STCK: stack indicator **NOTE** This indicator has different states and meanings in different versions. Here is the indicator states and meaning in V200R003C00 and later versions.	Green	If you are not changing the indicator mode (default): • Off: The switch is in stack standby or slave state or the stacking function is not enabled on the switch. • Blinking: The switch is a stack master switch or a standalone switch with the stacking function enabled.
			If you are changing the indicator mode: • Off: The stack mode is not selected. • Steady on: 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. After 45 seconds, the service port indicators automatically restore to the status mode.
7	PoE: PoE	Green	• Off: The PoE mode is not selected.

Number	Indicator	Color	Description
	indicator		• Steady on: The service port indicators show the PoE status. After 45 seconds, the service port indicators automatically restore to the status mode.
8	MODE: mode switch button	-	• 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 this 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 this button a third time, the service port indicators change to PoE mode and show the PoE status of ports. • When you press this button a fourth time, the STAT indicator turns green and the service port indicators restore to the default mode. 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 and PoE indicators are off, and the STCK indicator is off or blinking green.
9	Service port indicator • GE electrical ports: The ports are numbered from bottom to top and left to right, starting with 1. • GE/10GE optical ports: Each port has an indicator above it.	Meanings of service port indicators vary in different modes. For details, see Table 3-467.	
10	Mini USB indicator	Green	• Off: The Mini USB port is not active, and the console port is active. • Steady on: The Mini USB port is

Number	Indicator	Color	Description
			active. When this indicator is on, the console indicator is off.
11	Console indicator	Green	• Off: The console port is not active, and the Mini USB port is active. • Steady on (default): The console port is active. When this LED is on, the Mini USB port indicator is off.
12	ETH indicator	Green	• Off: No link is established on the port. • Steady on: The port is connected. • Blinking: The port is sending or receiving data.

Table 6-48 Description of service port indicators in different modes (one indicator for each port)

Display Mode	Color	Description
Status	Green	• Off: The port is not connected or has been shut down. • Steady on: The port is connected. • Blinking: The port is sending or receiving data.
Speed	Green	• Off: The port is not connected or has been shut down. • Steady on: 10M/100M/1000M port: The port is operating at 10/100 Mbit/s. 1000M/10GE port: The port is operating at 1000 Mbit/s. • Blinking: 10M/100M/1000M port: The port is operating at 1000 Mbit/s. 1000M/10GE port: The port is operating at 10 Gbit/s.
PoE	-	Off: The port does not provide PoE power.
	Green	Steady on: The port is providing PoE power.
	Yellow	• Steady on: The PoE function is disabled on the port. • Blinking: A PoE fault has occurred.

Display Mode	Color	Description
		For example, an incompatible PD is connected to the port.
	Green and yellow	Blinking green and yellow alternately: The port cannot provide power to a PD. The possible reasons include: • The power of the PD exceeds the maximum power or power threshold of the port. • The total power consumption of PDs has reached the maximum power of the switch. • The manual power management mode is used and the port is not enabled to provide power to the PD.
Stack	Green	• Off: Port indicators do not show the stack ID of the switch. • If the indicator is steady on, the switch is not a master switch: ◆ 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 are steady on, the stack ID of the switch is 0. • If the indicator is blinking, the switch is a master switch: ◆ 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 are blinking, the stack ID of the switch is 0.

Step 5 Power Supply Configuration

The S5710-28C-PWR-EI-AC is a PoE switch and uses 580 W AC PoE power modules. It has two power module slots. Table 3-468 lists its power supply configurations.

Table 6-49 Power supply configurations

Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
580 W	–	369.6 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port):

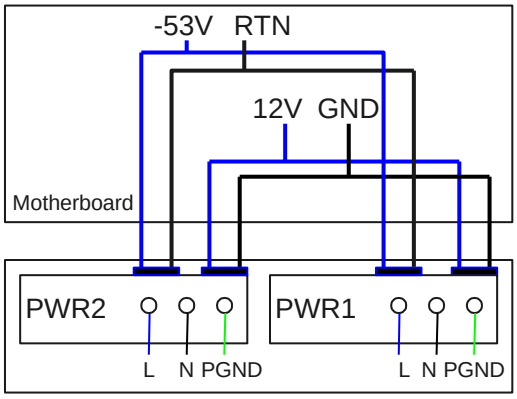
Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
			12
580 W	580 W	739.2 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 24

NOTE

When a switch has two power modules installed, the two power modules work in redundancy mode to provide power for the chassis and in load balancing mode to provide power for PDs.

Figure 3-174 shows the power supply mode of dual AC PoE power modules (PWR1 and PWR2). After AC power is transmitted to the PWR modules, the PWR modules provide 12 V and -53 V outputs. The outputs are combined on the motherboard, which then provides 12 V voltage for the switch and -53 V voltage for the PDs.

Figure 6-22 Power supply by dual AC PoE power modules



L: live wire | N: neutral wire | PGND: protection ground | GND: 12 V reference ground | RTN: -53 V reference ground

Step 6 Heat Dissipation

The S5710-28C-PWR-EI-AC has built-in fans for forced air cooling. The airflow direction is left-to-right.

Step 7 Technical Specifications

Table 3-469 lists technical specifications of the S5710-28C-PWR-EI-AC.

Table 6-50 Technical specifications

Item	Description
Memory (RAM)	512 MB
Flash	200 MB
Mean time between failures (MTBF)	51.28 years when an 8-port GE optical card is configured, 50.31 years when an 8-port GE electrical card is configured, 48.25 years when a 2-port 10GE interface card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±1 kV
Power supply surge protection	±6 kV in differential mode, ±6 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 1.75 in.)
Weight	• Empty: ≤ 6 kg (13.23 lb) • Fully loaded: ≤ 10 kg (22.05 lb)
Stack ports	Four fixed 10GE SFP+ ports on the front panel or ports on the 2-port 10GE rear card
RPS	Not supported
PoE	Supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz
Maximum power	• No card: 920 W (system power consumption: 180 W, PoE: 740

Item	Description
consumption (100% throughput, 100% PoE loads, full speed of fans)	W) • Two 8-port GE electrical card: 934 W (system power consumption: 194 W, PoE: 740 W) • Two 8-port GE optical card: 942 W (system power consumption: 202 W, PoE: 740 W) • Two 2-port 10GE optical card: 941 W (system power consumption: 201 W, PoE: 740 W)
Operating temperature	0 ℃ to 50 ℃ (32 ℉ to 122 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 59.7 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.2.3 S5710-52C-EI

Step 1 Version Mapping

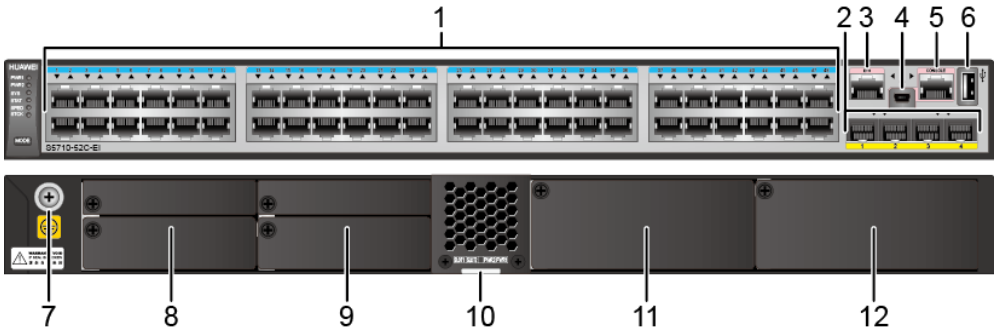
Table 3-470 lists the mapping between the S5710-52C-EI chassis and software versions.

Table 6-51 Version mapping

Series	Model	Software Version
S5710-EI	S5710-52C-EI	V200R001C00 to V200R005C02 **NOTE** This model does not match V200R001C01, V200R003C02, V200R003C10, or V200R005C01.

Step 2 Appearance and Structure

Figure 6-23 S5710-52C-EI appearance



1	Forty-eight 10/100/1000BASE-T ports	2	Four 10GE SFP+ ports Applicable modules and cables: • GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module • 10GE SFP+ optical module • 10GE-CWDM optical module (applicable in V200R005C00) • 1 m, 3 m, and 10 m SFP+ high-speed copper cables • 3 m and 10 m AOC cables (applicable in V200R003C00 and later versions)
3	ETH management port	4	One mini USB port
5	One console port	6	One USB port
7	Ground screw **NOTE** It is used with a ground cable.	8	Rear card slot 1 **NOTE** Card supported: • 7.9 ES5D21G08S00 (8-Port GE SFP Rear Optical Interface Card) • 7.10 ES5D21G08T00 (8-Port GE Rear Electrical Interface Card) • 7.11 ES5D21X02S00 (2-Port GE SFP/10GE SFP+ Rear Optical Interface Card)
9	Rear card slot 2 **NOTE** Card supported: • 7.9 ES5D21G08S00 (8-Port GE SFP Rear Optical Interface Card)	10	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.

	• 7.10 ES5D21G08T00 (8-Port GE Rear Electrical Interface Card) • 7.11 ES5D21X02S00 (2-Port GE SFP/10GE SFP+ Rear Optical Interface Card)		
11	Power module slot 2 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module	12	Power module slot 1 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-471 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-52 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

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 3-472 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-53 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

Attribute	Description
	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 3-473.

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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-474 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 flash drive used on a switch must comply with USB 1.1 and support the Linux operating system. Table 3-475 lists the USB flash drives applicable to a switch.

Table 6-56 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	SLUFD8GU2TUI	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

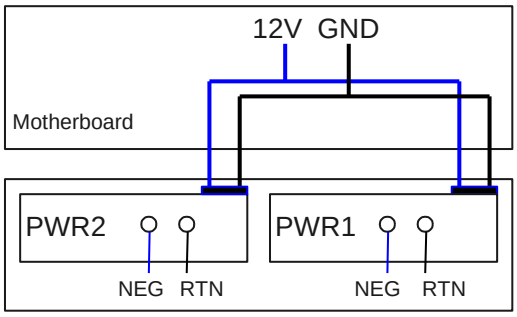
The S5710-52C-EI has the same types of indicators as the S5710-28C-EI. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5710-52C-EI uses pluggable power modules. It can be configured with a single power module or double power modules for 1+1 power redundancy. Pluggable AC and DC power modules can be used together in the same switch.

Figure 3-176 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.

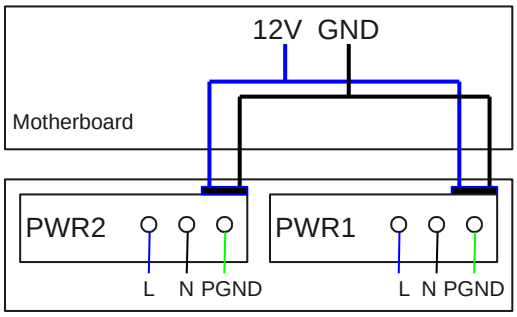
Figure 6-24 Power supply connections of dual DC power modules



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

Figure 3-177 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 6-25 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 S5710-52C-EI has built-in fans for forced air cooling. The airflow direction is left-to-right.

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

Step 7 Technical Specifications

Table 3-476 lists specifications of the S5710-52C-EI.

Table 6-57 Technical specifications

Item	Description
Memory (RAM)	512 MB
Flash	• V200R001: 64 MB • V200R002 and later versions: 200 MB
Mean time between failures (MTBF)	45.57 years when an 8-port GE optical card is configured, 44.85 years when an 8-port GE electrical card is configured, 43.33 years when a 2-port 10GE interface card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±2 kV
Power supply surge protection	• 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 1.75 in.)
Weight	• Empty: ≤ 6 kg (13.23 lb) • Fully loaded: ≤ 10 kg (22.05 lb)
Stack ports	Four fixed 10GE SFP+ ports on the front panel or ports on the 2-port 10GE rear card
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 (100% throughput, full speed of fans)	146.9 W

Item	Description
Operating temperature	0 ℃ to 50 ℃ (32 ℉ to 122 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 53.9 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	• AC power modules configured: 0-5000 m (0-16404 ft.) • DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.2.4 S5710-52C-PWR-EI

Step 1 Version Mapping

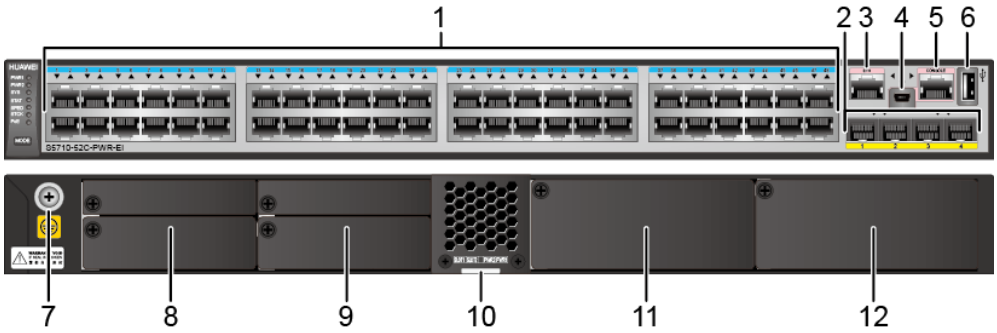
Table 3-477 lists the mapping between the S5710-52C-PWR-EI chassis and software versions.

Table 6-58 Version mapping

Series	Model	Software Version
S5710-EI	S5710-52C-PWR-EI	V200R002C00 to V200R005C02 **NOTE** This model does not match V200R003C02, V200R003C10, or V200R005C01.

Step 2 Appearance and Structure

Figure 6-26 S5710-52C-PWR-EI appearance



1	Forty-eight PoE+ 10/100/1000BASE-T ports	2	Four 10GE SFP+ ports Applicable modules and cables: • GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module • 10GE SFP+ optical module • 10GE-CWDM optical module (applicable in V200R005C00) • 1 m, 3 m, and 10 m SFP+ high-speed copper cables • 3 m and 10 m AOC cables (applicable in V200R003C00 and later versions)
3	ETH management port	4	One mini USB port
5	One console port	6	One USB port
7	Ground screw **NOTE** It is used with a ground cable.	8	Rear card slot 1 **NOTE** Card supported: • 7.9 ES5D21G08S00 (8-Port GE SFP Rear Optical Interface Card) • 7.10 ES5D21G08T00 (8-Port GE Rear Electrical Interface Card) • 7.11 ES5D21X02S00 (2-Port GE SFP/10GE SFP+ Rear Optical Interface Card)
9	Rear card slot 2 **NOTE** Card supported: • 7.9 ES5D21G08S00 (8-Port GE SFP Rear Optical Interface Card)	10	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.

	• 7.10 ES5D21G08T00 (8-Port GE Rear Electrical Interface Card) • 7.11 ES5D21X02S00 (2-Port GE SFP/10GE SFP+ Rear Optical Interface Card)		
11	Power module slot 2 **NOTE** Applicable power module: • 580 W AC PoE power module • 1150 W AC PoE power module	12	Power module slot 1 **NOTE** Applicable power module: • 580 W AC PoE power module • 1150 W AC PoE power module

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-478 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-59 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

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 3-479 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-60 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

Attribute	Description
	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 3-480.

Table 6-61 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-481 describes the attributes of an ETH management port.

Table 6-62 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 3-482 lists the USB flash drives applicable to a switch.

Table 6-63 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	SLUFD8GU2TUI	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 S5710-52C-PWR-EI has the same types of indicators as the S5710-28C-PWR-EI-AC. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5710-52C-PWR-EI is a PoE switch and uses 580 W or 1150 W AC PoE power modules. It has two power module slots. Table 3-483 lists its power supply configurations.

Table 6-64 Power supply configurations

Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
580 W	–	369.6 W	• 802.3af (15.4 W per port): 24

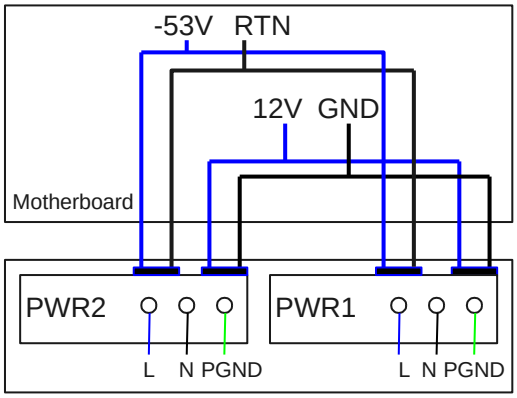
Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
			• 802.3at (30 W per port): 12
580 W	580 W	739.2 W	• 802.3af (15.4 W per port): 48 • 802.3at (30 W per port): 24
1150 W	–	785.4 W	• 802.3af (15.4 W per port): 48 • 802.3at (30 W per port): 26
1150 W	1150 W	1440 W	• 802.3af (15.4 W per port): 48 • 802.3at (30 W per port): 48

NOTE

When a switch has two power modules installed, the two power modules work in redundancy mode to provide power for the chassis and in load balancing mode to provide power for PDs.

Figure 3-179 shows the power supply mode of dual AC PoE power modules (PWR1 and PWR2). After AC power is transmitted to the PWR modules, the PWR modules provide 12 V and -53 V outputs. The outputs are combined on the motherboard, which then provides 12 V voltage for the switch and -53 V voltage for the PDs.

Figure 6-27 Power supply by dual AC PoE power modules



L: live wire | N: neutral wire | PGND: protection ground | GND: 12 V reference ground | RTN: -53 V reference ground

Step 6 Heat Dissipation

The S5710-52C-PWR-EI has built-in fans for forced air cooling. The airflow direction is left-to-right.

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

Step 7 Technical Specifications

Table 3-484 lists technical specifications of the S5710-52C-PWR-EI.

Table 6-65 Technical specifications

Item	Description
Memory (RAM)	512 MB
Flash	200 MB
Mean time between failures (MTBF)	36.86 years when an 8-port GE optical card is configured, 36.35 years when an 8-port GE electrical card is configured, 35.27 years when a 2-port 10GE interface card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±1 kV
Power supply surge protection	• Using 580 W AC power modules: ±6 kV in differential mode, ±6 kV in common mode • Using 1150 W AC power modules: ±2 kV in differential mode, ±4 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 1.75 in.) When 1150 W power modules are installed, they stretch out from the chassis. Therefore, the total depth of the switch changes to 507.3 mm (19.97 in.).
Weight	• Empty: ≤ 6 kg (13.23 lb) • Fully loaded: ≤ 10 kg (22.05 lb)

Item	Description
Stack ports	Four fixed 10GE SFP+ ports on the front panel or ports on the 2-port 10GE rear card
RPS	Not supported
PoE	Supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz
Maximum power consumption (100% throughput, 100% PoE loads, full speed of fans)	Using two 580 W power modules • No card: 1023 W (system power consumption: 283 W, PoE: 740 W) • Two 8-port GE electrical card: 1035 W (system power consumption: 295 W, PoE: 740 W) • Two 8-port GE optical card: 1043 W (system power consumption: 303 W, PoE: 740 W) • Two 2-port 10GE optical card: 1040 W (system power consumption: 300 W, PoE: 740 W) Using two 1150 W power modules • No card: 1605 W (system power consumption: 165 W, PoE: 1440 W) • Two 8-port GE electrical card: 1625 W (system power consumption: 185 W, PoE: 1440 W) • Two 8-port GE optical card: 1635 W (system power consumption: 195 W, PoE: 1440 W) • Two 2-port 10GE optical card: 1633 W (system power consumption: 193 W, PoE: 1440 W)
Operating temperature	0 ℃ to 50 ℃ (32 ℉ to 122 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 60 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.2.5 S5710-52C-PWR-EI-AC

Step 1 Version Mapping

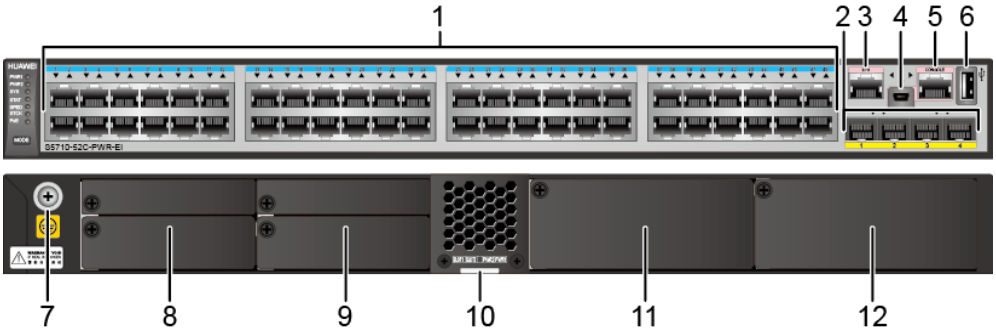
Table 3-485 lists the mapping between the S5710-52C-PWR-EI-AC chassis and software versions.

Table 6-66 Version mapping

Series	Model	Software Version
S5710-EI	S5710-52C-PWR-EI-AC	V200R002C00 to V200R005C02 **NOTE** This model does not match V200R003C02, V200R003C10, or V200R005C01.

Step 2 Appearance and Structure

Figure 6-28 S5710-52C-PWR-EI-AC appearance



1	Forty-eight PoE+ 10/100/1000BASE-T ports	2	Four 10GE SFP+ ports Applicable modules and cables: • GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module • 10GE SFP+ optical module • 10GE-CWDM optical module (applicable in V200R005C00) • 1 m, 3 m, and 10 m SFP+ high-speed copper cables • 3 m and 10 m AOC cables (applicable in V200R003C00 and later versions)

3	ETH management port	4	One mini USB port
5	One console port	6	One USB port
7	Ground screw **NOTE** It is used with a ground cable.	8	Rear card slot 1 **NOTE** Card supported: • 7.9 ES5D21G08S00 (8-Port GE SFP Rear Optical Interface Card) • 7.10 ES5D21G08T00 (8-Port GE Rear Electrical Interface Card) • 7.11 ES5D21X02S00 (2-Port GE SFP/10GE SFP+ Rear Optical Interface Card)
9	Rear card slot 2 **NOTE** Card supported: • 7.9 ES5D21G08S00 (8-Port GE SFP Rear Optical Interface Card) • 7.10 ES5D21G08T00 (8-Port GE Rear Electrical Interface Card) • 7.11 ES5D21X02S00 (2-Port GE SFP/10GE SFP+ Rear Optical Interface Card)	10	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.
11	Power module slot 2 **NOTE** Applicable power module: • 580 W AC PoE power module	12	Power module slot 1 **NOTE** Applicable power module: • 580 W AC PoE power module

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-486 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-67 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

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 3-487 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-68 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 3-488.

Table 6-69 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-489 describes the attributes of an ETH management port.

Table 6-70 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 3-490 lists the USB flash drives applicable to a switch.

Table 6-71 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	SLUFD8GU2TUI	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 S5710-52C-PWR-EI-AC has the same types of indicators as the S5710-28C-PWR-EI-AC. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5710-52C-PWR-EI-AC is a PoE switch and uses 580 W AC PoE power modules. It has two power module slots. Table 3-491 lists its power supply configurations.

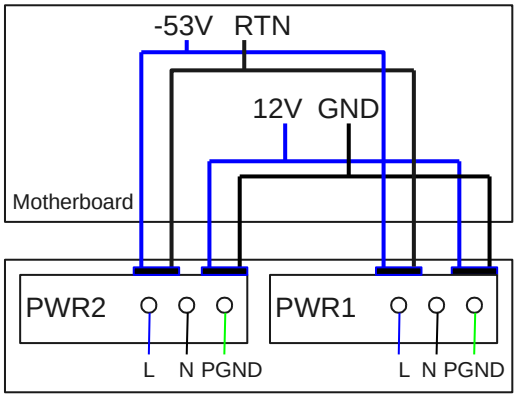
Table 6-72 Power supply configurations

Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
580 W	–	369.6 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 12
580 W	580 W	739.2 W	• 802.3af (15.4 W per port): 48 • 802.3at (30 W per port): 24

NOTE
When a switch has two power modules installed, the two power modules work in redundancy mode to provide power for the chassis and in load balancing mode to provide power for PDs.

Figure 3-181 shows the power supply mode of dual AC PoE power modules (PWR1 and PWR2). After AC power is transmitted to the PWR modules, the PWR modules provide 12 V and -53 V outputs. The outputs are combined on the motherboard, which then provides 12 V voltage for the switch and -53 V voltage for the PDs.

Figure 6-29 Power supply by dual AC PoE power modules



L: live wire | N: neutral wire | PGND: protection ground | GND: 12 V reference ground | RTN: -53 V reference ground

Step 6 Heat Dissipation

The S5710-52C-PWR-EI-AC has built-in fans for forced air cooling. The airflow direction is left-to-right.

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

Step 7 Technical Specifications

Table 3-492 lists technical specifications of the S5710-52C-PWR-EI-AC.

Table 6-73 Technical specifications

Item	Description
Memory (RAM)	512 MB
Flash	200 MB
Mean time between failures (MTBF)	36.86 years when an 8-port GE optical card is configured, 36.35 years when an 8-port GE electrical card is configured, 35.27 years when a 2-port 10GE interface card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±1 kV
Power supply surge protection	±6 kV in differential mode, ±6 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 1.75 in.)
Weight	• Empty: ≤ 6 kg (13.23 lb) • Fully loaded: ≤ 10 kg (22.05 lb)
Stack ports	Four fixed 10GE SFP+ ports on the front panel or ports on the 2-port 10GE rear card
RPS	Not supported

Item	Description
PoE	Supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz
Maximum power consumption (100% throughput, 100% PoE loads, full speed of fans)	• No card: 1023 W (system power consumption: 283 W, PoE: 740 W) • Two 8-port GE electrical card: 1035 W (system power consumption: 295 W, PoE: 740 W) • Two 8-port GE optical card: 1043 W (system power consumption: 303 W, PoE: 740 W) • Two 2-port 10GE optical card: 1040 W (system power consumption: 300 W, PoE: 740 W)
Operating temperature	0 ℃ to 50 ℃ (32 ℉ to 122 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 60 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3 S5720-EI

6.3.1 S5720-36C-EI-AC

Step 1 Version Mapping

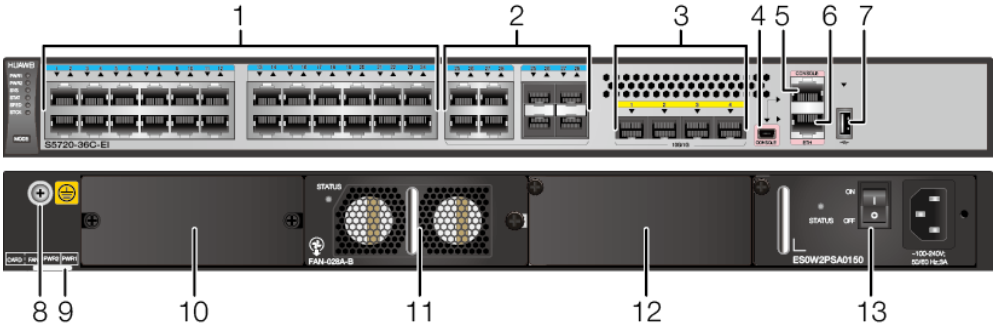
Table 3-493 lists the mapping between the S5720-36C-EI-AC chassis and software versions.

Table 6-74 Version mapping

Series		Model	Software Version
S5720-EI	S5720-C-EI	S5720-36C-EI-AC	V200R007C00 and later versions **NOTE** This model does not match V200R007C10.

Step 2 Appearance and Structure

Figure 6-30 S5720-36C-EI-AC appearance



1	Twenty-four 10/100/1000BASE-T ports	2	Four combo ports (10/100/1000BASE-T + 100/1000BASE-X) Modules applicable to the combo optical ports: • FE optical module • GE optical module • GE-CWDM optical module • GE-DWDM optical module
3	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and	4	One mini USB port

	later versions) • 3 m and 10 m AOC cables		
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	ETH management port
7	One USB port	8	Ground screw **NOTE** It is used with a ground cable.
9	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.	10	Rear card slot **NOTE** Card supported: • 7.17 ES5D21X02S01 (2-Port 10 Gig SFP+ Rear Interface Card, Used in S5720-EI Series) • 7.18 ES5D21X02T01 (2-Port 10 Gig RJ45 Rear Interface Card, Used in S5720-EI Series) • 7.19 ES5D21VST000 (Dedicated Stack Card with 2*QSFP+ Interface, Used in S5720-EI Series)
11	Fan slot **NOTE** Applicable fan module: 6.3 FAN-028A-B Fan Module	12	Power module slot 2 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module
13	Power module slot 1 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module	-	-

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-494 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-75 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab

Attribute	Description
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

Combo port

A combo port refers to a pair of ports consisting of an optical Ethernet port and an electrical Ethernet port on the panel. Each combo port matches only one internal forwarding port. A combo port can be configured as an electrical port or an optical port, but only one port can be active at a time. When one port is active, the other port is shut down.

NOTE

By default, a combo port works in auto mode, in which the port type is determined as follows:

- If the optical port has no optical module installed and the electrical port has no network cable connected, the port type depends on which port is connected first. If the electrical port is connected by a network cable first, the electrical port is used for data switching. If the optical port has an optical module installed first, the optical port is used for data switching.
- If the electrical port has a network cable connected and is in Up state, the electrical port is still used for data switching when the optical port has an optical module installed.
- If the optical port, no matter in Up or Down state, has an optical module installed, the optical port is still used for data switching when the electrical port has a network cable connected.
- If the optical port has an optical module installed and the electrical port has a network cable connected, the optical port is used for data switching after the switch restarts.

You can configure a combo port as an electrical or optical port using the **combo-port** command.

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 3-495 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-76 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 3-496.

Table 6-77 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-497 describes the attributes of an ETH management port.

Table 6-78 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 of the S5720-EI does not support USB 1.1 and

can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

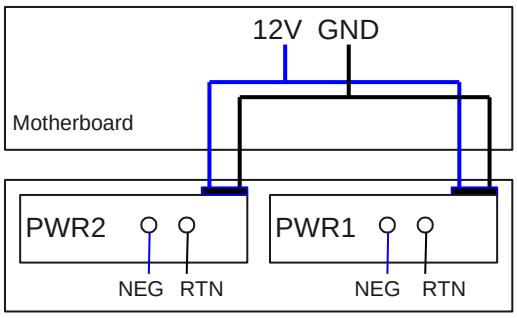
The S5720-36C-EI-AC has similar indicators to those on the S5720-36C-PWR-EI-AC, except that the S5720-36C-EI-AC does not have a PoE mode indicator. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-36C-EI-AC uses pluggable power modules. It can be configured with a single power module or double power modules for 1+1 power redundancy. Pluggable AC and DC power modules can be used together in the same switch.

Figure 3-183 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.

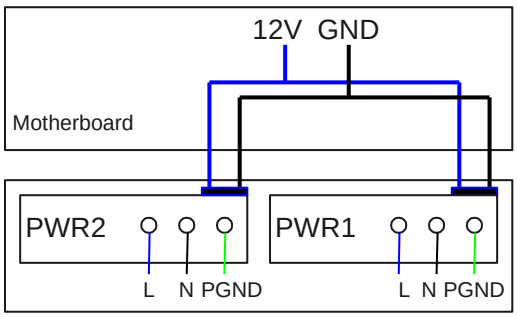
Figure 6-31 Power supply connections of dual DC power modules



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

Figure 3-184 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 6-32 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 S5720-36C-EI-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 3-498 lists technical specifications of the S5720-36C-EI-AC.

Table 6-79 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	80.05 years when no card is configured; 73.65 years when a 2-port 10GE SFP+ interface card is configured; 71.58 years when a 2-port 10GE RJ45 interface card is configured; 71.74 years when a stack card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	• 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	• Empty: ≤ 8 kg (17.64 lb) • Fully loaded: ≤ 12 kg (26.46 lb)

Item	Description
Stack ports	• Ports on the 2-port 10GE SFP+ rear interface card • Ports on the 2-port 10GE RJ45 rear interface card • Ports on the 2-port QSFP+ rear stack card
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 (100% throughput, full speed of fans)	75.8 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 51.2 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	• AC power modules configured: 0-5000 m (0-16404 ft.) • DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.2 S5720-36C-EI-DC

Step 1 Version Mapping

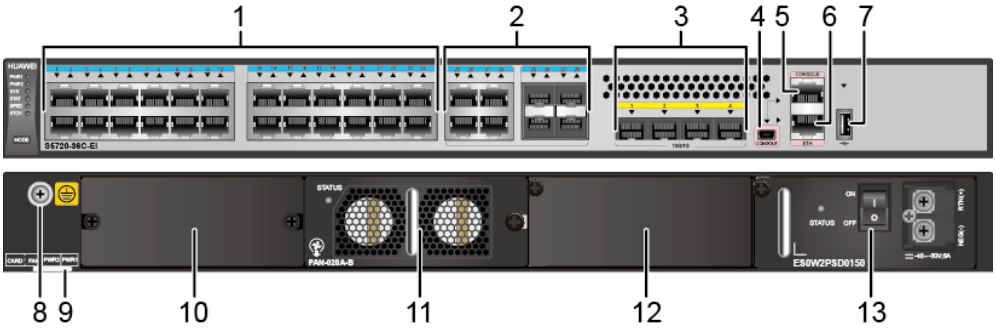
Table 3-499 lists the mapping between the S5720-36C-EI-DC chassis and software versions.

Table 6-80 Version mapping

Series		Model	Software Version
S5720-EI	S5720-C-EI	S5720-36C-EI-DC	V200R009C00 and later versions

Step 2 Appearance and Structure

Figure 6-33 S5720-36C-EI-DC appearance



1	Twenty-four 10/100/1000BASE-T ports	2	Four combo ports (10/100/1000BASE-T + 100/1000BASE-X) Modules applicable to the combo optical ports: • FE optical module • GE optical module • GE-CWDM optical module • GE-DWDM optical module
3	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables	4	One mini USB port

5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	ETH management port
7	One USB port	8	Ground screw **NOTE** It is used with a ground cable.
9	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.	10	Rear card slot **NOTE** Card supported: • 7.17 ES5D21X02S01 (2-Port 10 Gig SFP+ Rear Interface Card, Used in S5720-EI Series) • 7.18 ES5D21X02T01 (2-Port 10 Gig RJ45 Rear Interface Card, Used in S5720-EI Series) • 7.19 ES5D21VST000 (Dedicated Stack Card with 2*QSFP+ Interface, Used in S5720-EI Series)
11	Fan slot **NOTE** Applicable fan module: 6.3 FAN-028A-B Fan Module	12	Power module slot 2 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module
13	Power module slot 1 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module	-	-

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-500 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-81 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex

Attribute	Description
Maximum transmission distance	100 m

Combo port

A combo port refers to a pair of ports consisting of an optical Ethernet port and an electrical Ethernet port on the panel. Each combo port matches only one internal forwarding port. A combo port can be configured as an electrical port or an optical port, but only one port can be active at a time. When one port is active, the other port is shut down.

NOTE

By default, a combo port works in auto mode, in which the port type is determined as follows:

- If the optical port has no optical module installed and the electrical port has no network cable connected, the port type depends on which port is connected first. If the electrical port is connected by a network cable first, the electrical port is used for data switching. If the optical port has an optical module installed first, the optical port is used for data switching.
- If the electrical port has a network cable connected and is in Up state, the electrical port is still used for data switching when the optical port has an optical module installed.
- If the optical port, no matter in Up or Down state, has an optical module installed, the optical port is still used for data switching when the electrical port has a network cable connected.
- If the optical port has an optical module installed and the electrical port has a network cable connected, the optical port is used for data switching after the switch restarts.

You can configure a combo port as an electrical or optical port using the **combo-port** command.

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 3-501 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-82 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 3-502.

Table 6-83 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-503 describes the attributes of an ETH management port.

Table 6-84 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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

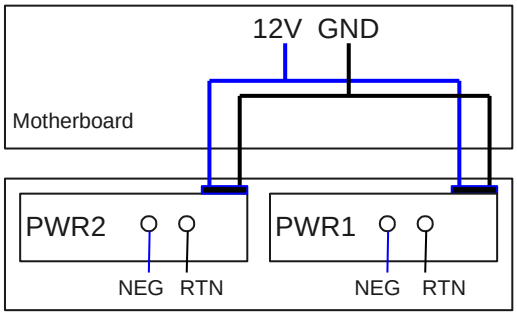
The S5720-36C-EI-DC has similar indicators to those on the S5720-36C-PWR-EI-AC, except that the S5720-56C-EI-DC does not have a PoE mode indicator. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-36C-EI-DC uses pluggable power modules. It can be configured with a single power module or double power modules for 1+1 power redundancy. Pluggable AC and DC power modules can be used together in the same switch.

Figure 3-186 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.

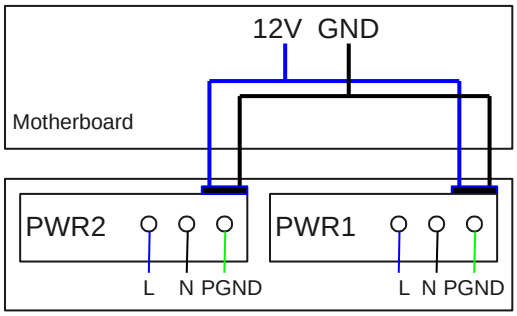
Figure 6-34 Power supply connections of dual DC power modules



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

Figure 3-187 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 6-35 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 S5720-36C-EI-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 3-504 lists technical specifications of the S5720-36C-EI-DC.

Table 6-85 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	80.05 years when no card is configured; 73.65 years when a 2-port 10GE SFP+ interface card is configured; 71.58 years when a 2-port 10GE RJ45 interface card is configured; 71.74 years when a stack card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	• 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	• Empty: ≤ 8 kg (17.64 lb) • Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	• Ports on the 2-port 10GE SFP+ rear interface card

Item	Description
	• Ports on the 2-port 10GE RJ45 rear interface card • Ports on the 2-port QSFP+ rear stack card
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 (100% throughput, full speed of fans)	75.8 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 51.2 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	• AC power modules configured: 0-5000 m (0-16404 ft.) • DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.3 S5720-36C-EI-28S-AC

Step 1 Version Mapping

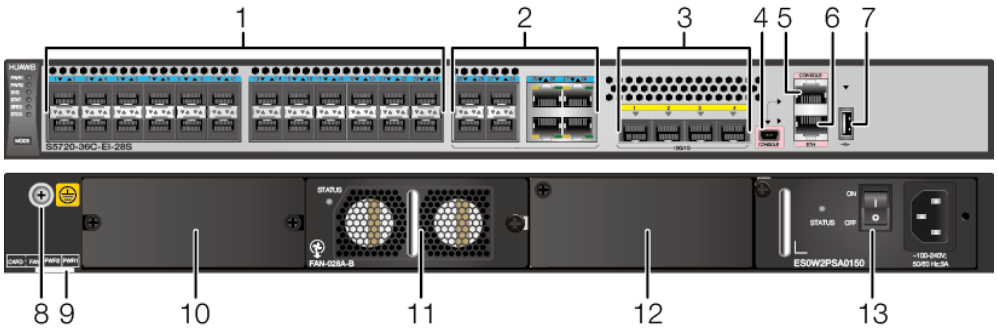
Table 3-505 lists the mapping between the S5720-36C-EI-28S-AC chassis and software versions.

Table 6-86 Version mapping

Series		Model	Software Version
S5720-EI	S5720-C-EI	S5720-36C-EI-28S-AC	V200R007C00 and later versions **NOTE** This model does not match V200R007C10.

Step 2 Appearance and Structure

Figure 6-36 S5720-36C-EI-28S-AC appearance



1	Twenty-four 100/1000BASE-X ports Applicable modules: • FE optical module • GE optical module • GE-CWDM optical module • GE copper module	2	Four combo ports (10/100/1000BASE-T + 100/1000BASE-X) Modules applicable to the combo optical ports: • FE optical module • GE optical module • GE-CWDM optical module
3	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions)	4	One mini USB port

	• 3 m and 10 m AOC cables		
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	ETH management port
7	One USB port	8	Ground screw **NOTE** It is used with a ground cable.
9	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.	10	Rear card slot **NOTE** Card supported: • 7.17 ES5D21X02S01 (2-Port 10 Gig SFP+ Rear Interface Card, Used in S5720-EI Series) • 7.18 ES5D21X02T01 (2-Port 10 Gig RJ45 Rear Interface Card, Used in S5720-EI Series) • 7.19 ES5D21VST000 (Dedicated Stack Card with 2*QSFP+ Interface, Used in S5720-EI Series)
11	Fan slot **NOTE** Applicable fan module: 6.3 FAN-028A-B Fan Module	12	Power module slot 2 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module
13	Power module slot 1 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module	-	-

Step 3 Port Description

100/1000BASE-X port

A 100/1000BASE-X port can send and receive data at 100 Mbit/s or 1000 Mbit/s. Table 3-506 describes the attributes of a 100/1000BASE-X port.

Table 6-87 Attributes of a 100/1000BASE-X port

Attribute	Description
Connector type	LC/PC
Optical interface attributes	Depend on the optical module used
Standards compliance	IEEE802.3z

Attribute	Description
Working mode	100/1000 Mbit/s auto-sensing Full-duplex

Combo port

A combo port consists of an optical Ethernet port and an electrical Ethernet port on the panel. Each combo port matches only one internal forwarding port. The electrical and optical ports of a combo port are multiplexed, and only one of them can work at a time. When one of the Ethernet ports is working, the other port is shut down.

NOTE

By default, a combo port works in auto mode, in which the port type is determined as follows:

- If the optical port has no optical module installed and the electrical port has no network cable connected, the port type depends on which port is connected first. If the electrical port is connected by a network cable first, the electrical port is used for data switching. If the optical port has an optical module installed first, the optical port is used for data switching.
- If the electrical port has a network cable connected and is in Up state, the electrical port is still used for data switching when the optical port has an optical module installed.
- If the optical port, no matter in Up or Down state, has an optical module installed, the optical port is still used for data switching when the electrical port has a network cable connected.
- If the optical port has an optical module installed and the electrical port has a network cable connected, the optical port is used for data switching after the switch restarts.

You can configure a combo port as an electrical or optical port using the **combo-port** command.

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 3-507 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-88 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 3-508.

Table 6-89 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-509 describes the attributes of an ETH management port.

Table 6-90 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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

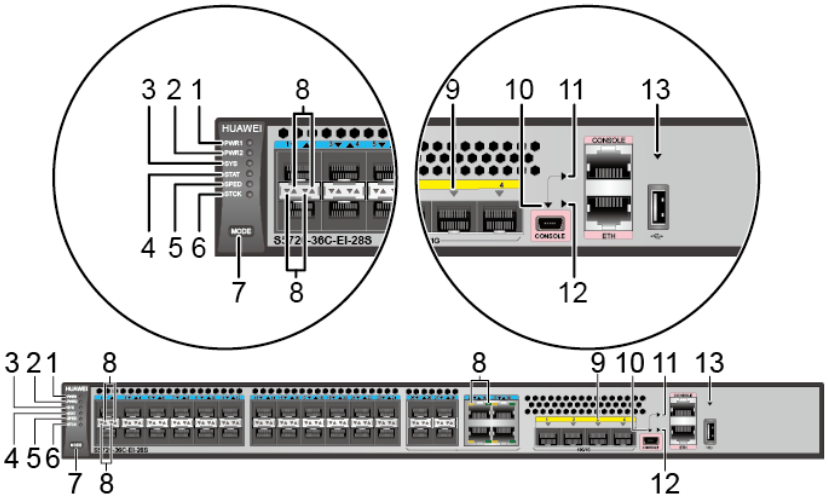
Step 4 Indicator Description

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 6-37 Indicators on the S5720-36C-EI-28S-AC



NOTE

The S5720-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, STCK, and PoE) are used as fault indicators. When an S5720-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 fault switch.

Table 6-91 Indicator Description

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

No.	Indicator	Color	Description
			situations occurs in power module slot 1: • 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 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.
		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: • 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	• 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	• Off: The status mode is not selected. • Steady on: The status mode (default mode) is selected. In this mode, service port indicators show the port link or activity state.
5	SPED: speed indicator	Green	• 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

No.	Indicator	Color	Description
			automatically restore to the status mode.
6	STCK: stack indicator	Green	If you are not changing the indicator mode (default state): • 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.
			If you are changing the indicator mode: • 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. After 45 seconds, the service port indicators automatically restore to the status mode.
7	MODE: mode switch button	-	• 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 this 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. 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.
8	Service port indicator (two	Meanings of service port indicators vary in different modes. For details, see Table 3-511.	

No.	Indicator	Color	Description
	indicators for each port) **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.		
9	Service port indicator (one indicator for each port)	Meanings of service port indicators vary in different modes. For details, see Table 3-512.	
10	Mini USB indicator	Green	• Off: The Mini USB port is disabled, and the console port is enabled. • Steady on: The Mini USB port is enabled. When the Mini USB indicator is steady green, the console indicator is off.
11	Console indicator	Green	• Off: The console port is disabled, and the Mini USB port is enabled. • Steady on: The console port is enabled (default state). When the console indicator is steady green, the Mini USB indicator is off.
12	ETH port indicator	Green	• Off: The ETH management port is not connected. • Steady on: The ETH management port is connected. • Blinking: The port is sending or receiving data.
13	USB-based deployment indicator	-	Off: • 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.

No.	Indicator	Color	Description
		Green	• Steady on: A USB-based deployment has been completed. • Blinking: The system is reading data from the 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 6-92 Description of service port indicators in different modes (two indicators for each port)

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 port is sending or receiving data.
Speed	Green and yellow	• Off: The port is not connected or has been shut down. • Both steady on: 10M/100M/1000M port: The port is operating at 10/100 Mbit/s. 1000M/10GE port: The port is operating at 1000 Mbit/s. • Both blinking: 10M/100M/1000M port: The port is operating at 1000 Mbit/s. 1000M/10GE port: The port is operating at 10 Gbit/s.
Stack	Green and yellow	• Off: Service port indicators do not show the stack ID of the switch. • If both indicators are steady on, the switch is not a master switch: ◆ 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 are steady on, the stack ID of the switch is 0.

Display Mode	Color	Description
		• If both indicators are blinking, the switch is a master switch: ◆ 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 are blinking, the stack ID of the switch is 0.

Table 6-93 Description of service port indicators in different modes (one indicator for each port)

Display Mode	Color	Description
Status	Green	• Off: The port is not connected or has been shut down. • Steady on: The port is connected. • Blinking: The port is sending or receiving data.
Speed	Green	• Off: The port is not connected or has been shut down. • Steady on: 10M/100M/1000M port: The port is operating at 10/100 Mbit/s. 1000M/10GE port: The port is operating at 1000 Mbit/s. • Blinking: 10M/100M/1000M port: The port is operating at 1000 Mbit/s. 1000M/10GE port: The port is operating at 10 Gbit/s.
Stack	Green	• Off: Port indicators do not show the stack ID of the switch. • If the indicator is steady on, the switch is not a master switch: ◆ 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 are steady on, the stack ID of the switch is 0. • If the indicator is blinking, the switch is a master switch: ◆ If the indicator of a port is blinking, the number of this port is the stack ID of the switch.

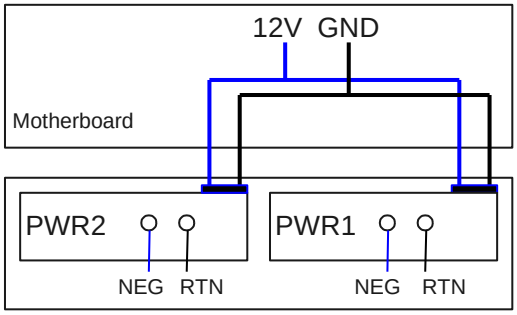
Display Mode	Color	Description
		◆ If the first nine port indicators are blinking, the stack ID of the switch is 0.

Step 5 Power Supply Configuration

The S5720-36C-EI-28S-AC uses pluggable power modules. It can be configured with a single power module or double power modules for 1+1 power redundancy. Pluggable AC and DC power modules can be used together in the same switch.

Figure 3-190 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.

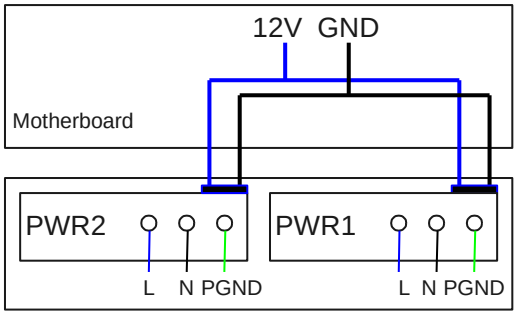
Figure 6-38 Power supply connections of dual DC power modules



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

Figure 3-191 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 6-39 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 S5720-36C-EI-28S-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 3-513 lists technical specifications of the S5720-36C-EI-28S-AC.

Table 6-94 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	85.45 years when no card is configured; 78.2 years when a 2-port 10GE SFP+ interface card is configured; 75.87 years when a 2-port 10GE RJ45 interface card is configured; 76.05 years when a stack card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	• 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	• Empty: ≤ 8 kg (17.64 lb) • Fully loaded: ≤ 12 kg (26.46 lb)

Item	Description
Stack ports	• Ports on the 2-port 10GE SFP+ rear interface card • Ports on the 2-port 10GE RJ45 rear interface card • Ports on the 2-port QSFP+ rear stack card
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 (100% throughput, full speed of fans)	83.9 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 51.2 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	• AC power modules configured: 0-5000 m (0-16404 ft.) • DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.4 S5720-36C-EI-28S-DC

Step 1 Version Mapping

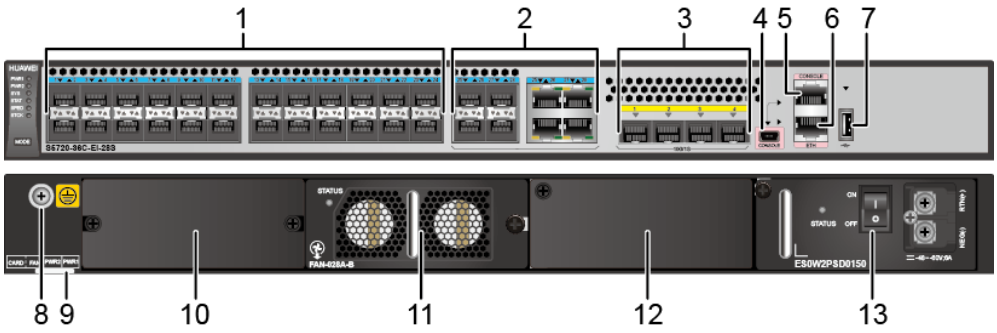
Table 3-514 lists the mapping between the S5720-36C-EI-28S-DC chassis and software versions.

Table 6-95 Version mapping

Series		Model	Software Version
S5720-EI	S5720-C-EI	S5720-36C-EI-28S-DC	V200R009C00 and later versions

Step 2 Appearance and Structure

Figure 6-40 S5720-36C-EI-28S-DC appearance



1	Twenty-four 100/1000BASE-X ports Applicable modules: • FE optical module • GE optical module • GE-CWDM optical module • GE copper module	2	Four combo ports (10/100/1000BASE-T + 100/1000BASE-X) Modules applicable to the combo optical ports: • FE optical module • GE optical module • GE-CWDM optical module
3	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables	4	One mini USB port
5	One console port	6	ETH management port

	NOTE It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.		
7	One USB port	8	Ground screw **NOTE** It is used with a ground cable.
9	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.	10	Rear card slot **NOTE** Card supported: • 7.17 ES5D21X02S01 (2-Port 10 Gig SFP+ Rear Interface Card, Used in S5720-EI Series) • 7.18 ES5D21X02T01 (2-Port 10 Gig RJ45 Rear Interface Card, Used in S5720-EI Series) • 7.19 ES5D21VST000 (Dedicated Stack Card with 2*QSFP+ Interface, Used in S5720-EI Series)
11	Fan slot **NOTE** Applicable fan module: 6.3 FAN-028A-B Fan Module	12	Power module slot 2 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module
13	Power module slot 1 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module	-	-

Step 3 Port Description

100/1000BASE-X port

A 100/1000BASE-X port can send and receive data at 100 Mbit/s or 1000 Mbit/s. Table 3-515 describes the attributes of a 100/1000BASE-X port.

Table 6-96 Attributes of a 100/1000BASE-X port

Attribute	Description
Connector type	LC/PC
Optical interface attributes	Depend on the optical module used
Standards compliance	IEEE802.3z
Working mode	100/1000 Mbit/s auto-sensing Full-duplex

Combo port

A combo port consists of an optical Ethernet port and an electrical Ethernet port on the panel. Each combo port matches only one internal forwarding port. The electrical and optical ports of a combo port are multiplexed, and only one of them can work at a time. When one of the Ethernet ports is working, the other port is shut down.

NOTE

By default, a combo port works in auto mode, in which the port type is determined as follows:

- If the optical port has no optical module installed and the electrical port has no network cable connected, the port type depends on which port is connected first. If the electrical port is connected by a network cable first, the electrical port is used for data switching. If the optical port has an optical module installed first, the optical port is used for data switching.
- If the electrical port has a network cable connected and is in Up state, the electrical port is still used for data switching when the optical port has an optical module installed.
- If the optical port, no matter in Up or Down state, has an optical module installed, the optical port is still used for data switching when the electrical port has a network cable connected.
- If the optical port has an optical module installed and the electrical port has a network cable connected, the optical port is used for data switching after the switch restarts.

You can configure a combo port as an electrical or optical port using the **combo-port** command.

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 3-516 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-97 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 3-517.

Table 6-98 Attributes of a console port

Attribute	Description
Connector type	RJ45

Attribute	Description
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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-518 describes the attributes of an ETH management port.

Table 6-99 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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

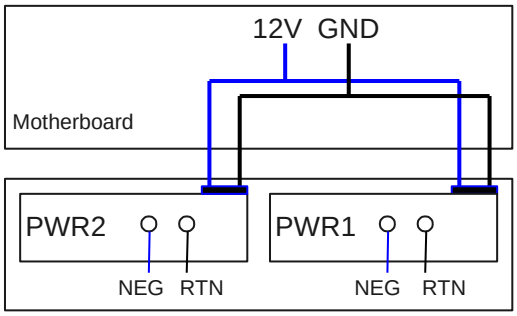
The S5720-36C-EI-28S-DC have the same types of indicators as the S5720-36C-EI-28S-AC. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-36C-EI-28S-DC uses pluggable power modules. It can be configured with a single power module or double power modules for 1+1 power redundancy. Pluggable AC and DC power modules can be used together in the same switch.

Figure 3-193 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.

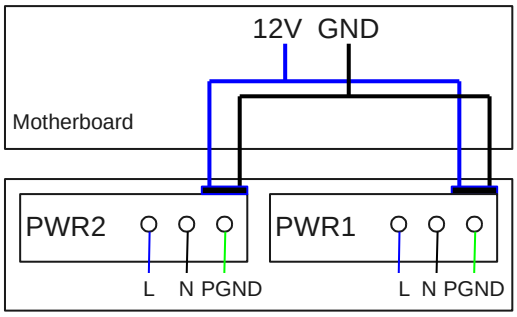
Figure 6-41 Power supply connections of dual DC power modules



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

Figure 3-194 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 6-42 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 S5720-36C-EI-28S-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 3-519 lists technical specifications of the S5720-36C-EI-28S-DC.

Table 6-100 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	85.45 years when no card is configured; 78.2 years when a 2-port 10GE SFP+ interface card is configured; 75.87 years when a 2-port 10GE RJ45 interface card is configured; 76.05 years when a stack card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	• 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	• Empty: ≤ 8 kg (17.64 lb) • Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	• Ports on the 2-port 10GE SFP+ rear interface card • Ports on the 2-port 10GE RJ45 rear interface card • Ports on the 2-port QSFP+ rear stack card

Item	Description
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 (100% throughput, full speed of fans)	83.9 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 51.2 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	• AC power modules configured: 0-5000 m (0-16404 ft.) • DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.5 S5720-36C-PWR-EI-AC

Step 1 Version Mapping

Table 3-520 lists the mapping between the S5720-36C-PWR-EI-AC chassis and software versions.

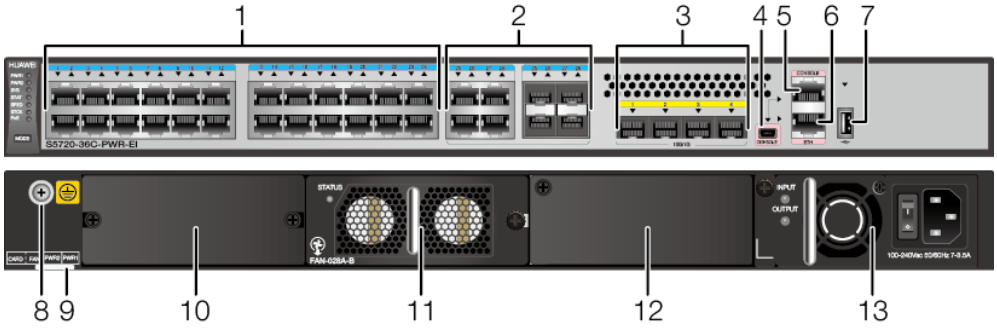
Table 6-101 Version mapping

Series		Model	Software Version
S5720-EI	S5720-C-EI	S5720-36C-PWR-EI-AC	V200R007C00 and later versions **NOTE** This model does not match

Series		Model	Software Version
			V200R007C10.

Step 2 Appearance and Structure

Figure 6-43 S5720-36C-PWR-EI-AC appearance



1	Twenty-four PoE+ 10/100/1000BASE-T ports	2	Four combo ports (10/100/1000BASE-T (PoE+) + 100/1000BASE-X) Modules applicable to the combo optical ports: • FE optical module • GE optical module • GE-CWDM optical module • GE-DWDM optical module
3	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables	4	One mini USB port
5	One console port **NOTE**	6	ETH management port

	It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.		
7	One USB port	8	Ground screw **NOTE** It is used with a ground cable.
9	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.	10	Rear card slot **NOTE** Card supported: • 7.17 ES5D21X02S01 (2-Port 10 Gig SFP+ Rear Interface Card, Used in S5720-EI Series) • 7.18 ES5D21X02T01 (2-Port 10 Gig RJ45 Rear Interface Card, Used in S5720-EI Series) • 7.19 ES5D21VST000 (Dedicated Stack Card with 2*QSFP+ Interface, Used in S5720-EI Series)
11	Fan slot **NOTE** Applicable fan module: 6.3 FAN-028A-B Fan Module	12	Power module slot 2 **NOTE** Applicable power modules: • 500 W AC PoE power module • 650 W DC PoE power module
13	Power module slot 1 **NOTE** Applicable power modules: • 500 W AC PoE power module • 650 W DC PoE power module	-	-

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-521 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-102 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission	100 m

Attribute	Description
distance	

Combo port

A combo port refers to a pair of ports consisting of an optical Ethernet port and an electrical Ethernet port on the panel. Each combo port matches only one internal forwarding port. A combo port can be configured as an electrical port or an optical port, but only one port can be active at a time. When one port is active, the other port is shut down.

NOTE

By default, a combo port works in auto mode, in which the port type is determined as follows:

- If the optical port has no optical module installed and the electrical port has no network cable connected, the port type depends on which port is connected first. If the electrical port is connected by a network cable first, the electrical port is used for data switching. If the optical port has an optical module installed first, the optical port is used for data switching.
- If the electrical port has a network cable connected and is in Up state, the electrical port is still used for data switching when the optical port has an optical module installed.
- If the optical port, no matter in Up or Down state, has an optical module installed, the optical port is still used for data switching when the electrical port has a network cable connected.
- If the optical port has an optical module installed and the electrical port has a network cable connected, the optical port is used for data switching after the switch restarts.

You can configure a combo port as an electrical or optical port using the **combo-port** command.

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 3-522 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-103 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 3-523.

Table 6-104 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-524 describes the attributes of an ETH management port.

Table 6-105 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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

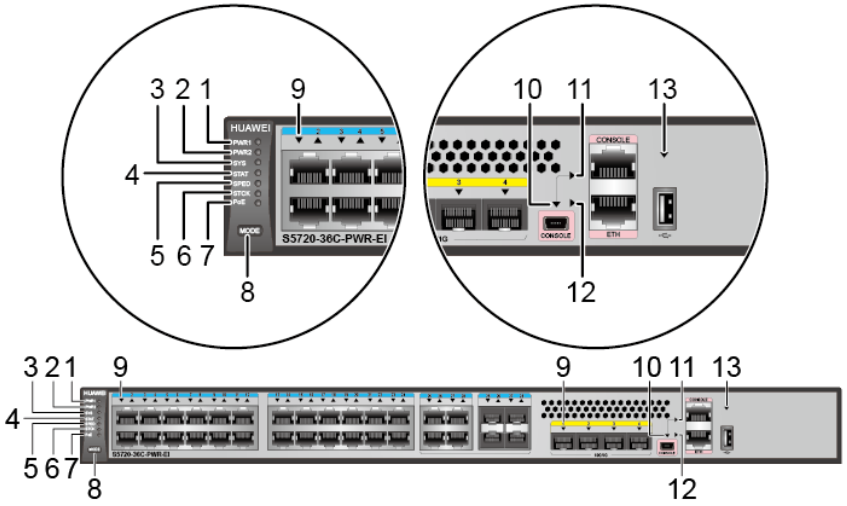
Step 4 Indicator Description

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 6-44 Indicators on the S5720-36C-PWR-EI-AC



NOTE

The S5720-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, STCK, and PoE) are used as fault indicators. When an S5720-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 fault switch.

Table 6-106 Indicator Description

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

No.	Indicator	Color	Description
			modules installed. Any of the following situations occurs in power module slot 1: • 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 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.
		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: • 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	• 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	• Off: The status mode is not selected. • Steady on: The status mode (default mode) is selected. In this mode, service port indicators show the port link or activity state.
5	SPED: speed indicator	Green	• 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

No.	Indicator	Color	Description
			seconds, the service port indicators automatically restore to the status mode.
6	STCK: stack indicator	Green	If you are not changing the indicator mode (default state): • 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.
			If you are changing the indicator mode: • 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. After 45 seconds, the service port indicators automatically restore to the status mode.
7	PoE: PoE mode indicator	Green	• Off: The PoE mode is not selected. • Steady on: The service port indicators show the PoE status. After 45 seconds, the service port indicators automatically restore to the status mode.
8	MODE: mode switch button	-	• 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 this 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 this button a third time, the service port indicators change to the PoE mode and show the PoE status of ports. • When you press this button a fourth

No.	Indicator	Color	Description
			time, the service port indicators restore to the default mode, and the STAT indicator turns green. 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 and PoE indicators are off, and the STCK indicator is off or blinking green.
9	Service port indicator (one indicator for each port)	Meanings of service port indicators vary in different modes. For details, see Table 3-526.	
10	Mini USB indicator	Green	• Off: The Mini USB port is disabled, and the console port is enabled. • Steady on: The Mini USB port is enabled. When the Mini USB indicator is steady green, the console indicator is off.
11	Console indicator	Green	• Off: The console port is disabled, and the Mini USB port is enabled. • Steady on: The console port is enabled (default state). When the console indicator is steady green, the Mini USB indicator is off.
12	ETH port indicator	Green	• Off: The ETH management port is not connected. • Steady on: The ETH management port is connected. • Blinking: The ETH management port is sending or receiving data.
13	USB-based deployment indicator	-	Off: • 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	• Steady on: A USB-based deployment has been completed. • Blinking: The system is reading data

No.	Indicator	Color	Description
			from the 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 6-107 Description of service port indicators in different modes (one indicator for each port)

Display Mode	Color	Description
Status	Green	• Off: The port is not connected or has been shut down. • Steady on: The port is connected. • Blinking: The port is sending or receiving data.
Speed	Green	• Off: The port is not connected or has been shut down. • Steady on: 10M/100M/1000M port: The port is operating at 10/100 Mbit/s. 1000M/10GE port: The port is operating at 1000 Mbit/s. • Blinking: 10M/100M/1000M port: The port is operating at 1000 Mbit/s. 1000M/10GE port: The port is operating at 10 Gbit/s.
PoE	-	Off: The port does not provide PoE power.
	Green	Steady on: The port is providing PoE power.
	Yellow	• Steady on: The PoE function is disabled on the port. • Blinking: A PoE fault has occurred. For example, an incompatible PD is connected to the port.
	Green and yellow	Blinking green and yellow alternately: The port cannot provide power to a PD. The possible reasons include: • The power of the PD exceeds the

Display Mode	Color	Description
		maximum power or power threshold of the port. • The total power consumption of PDs has reached the maximum power of the switch. • The manual power management mode is used and the port is not enabled to provide power to the PD.
Stack	Green	• Off: Port indicators do not show the stack ID of the switch. • If the indicator is steady on, the switch is not a master switch: ◆ 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 are steady on, the stack ID of the switch is 0. • If the indicator is blinking, the switch is a master switch: ◆ 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 are blinking, the stack ID of the switch is 0.

Step 5 Power Supply Configuration

The S5720-36C-PWR-EI-AC is a PoE switch. It has two power module slots, each of which can have a 500 W or 650 W power module installed. A power module can provide 369.6 W of PoE power for powered devices (PDs). A 500 W AC power module and a 650 W DC power module can be used together in the switch. Table 3-527 lists its power supply configurations.

Table 6-108 Power supply configurations

Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
500 W or 650 W	-	369.6 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 12
500 W or 650 W	500 W or 650 W	739.2 W	• 802.3af (15.4 W per port): 28 • 802.3at (30 W per port):

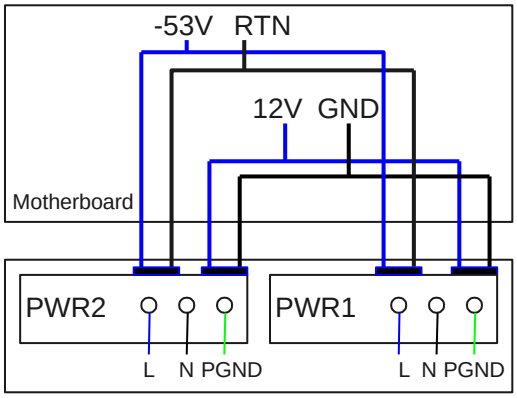
Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
			24

NOTE

When a switch has two power modules installed, the two power modules work in redundancy mode to provide power for the chassis and in load balancing mode to provide power for PDs.

Figure 3-197 shows the power supply mode of dual AC PoE power modules (PWR1 and PWR2). After AC power is transmitted to the PWR modules, the PWR modules provide 12 V and -53 V outputs. The outputs are combined on the motherboard, which then provides 12 V voltage for the switch and -53 V voltage for the PDs.

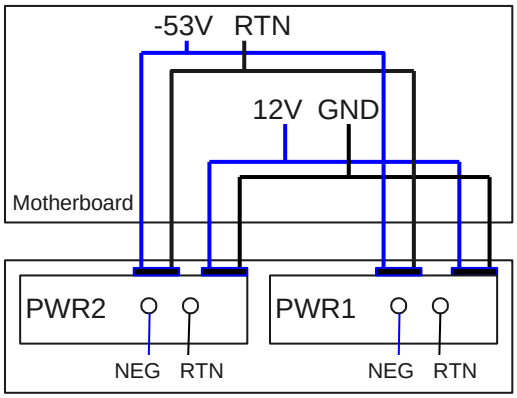
Figure 6-45 Power supply by dual AC PoE power modules



L:	N:	PGND: protection ground	GND: 12 V reference ground	RTN: -53 V reference ground
live wire	neutral wire			

Figure 3-198 shows the power supply connections of dual DC PoE power modules. After DC power is transmitted to the PWR module, the PWR module provides 12 V and -53 V output voltages, and the motherboard provides 12 V voltage for the entire device and -53 V voltage for the PDs.

Figure 6-46 Power supply connections of dual DC PoE power modules



NEG: negative cable	RTN: positive cable	GND: 12 V reference ground	RTN: -53 V reference ground

Step 6 Heat Dissipation

The S5720-36C-PWR-EI-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 3-528 lists technical specifications of the S5720-36C-PWR-EI-AC.

Table 6-109 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	60.72 years when no card is configured; 56.97 years when a 2-port 10GE SFP+ interface card is configured; 55.72 years when a 2-port 10GE RJ45 interface card is configured; 55.82 years when a stack card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	• Using 500 W AC power modules: ±6 kV in differential mode, ±6 kV in common mode • Using 650 W DC power modules: ±2 kV in differential mode, ±4 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.)

Item	Description
Weight	• Empty: ≤ 8 kg (17.64 lb) • Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	• Ports on the 2-port 10GE SFP+ rear interface card • Ports on the 2-port 10GE RJ45 rear interface card • Ports on the 2-port QSFP+ rear stack card
RPS	Not supported
PoE	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)	• Without PoE: 78 W • 100% PoE loads: 864.3 W (system power consumption: 124.3 W, PoE: 740 W)
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 53.7 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.6 S5720-36C-PWR-EI-DC

Step 1 Version Mapping

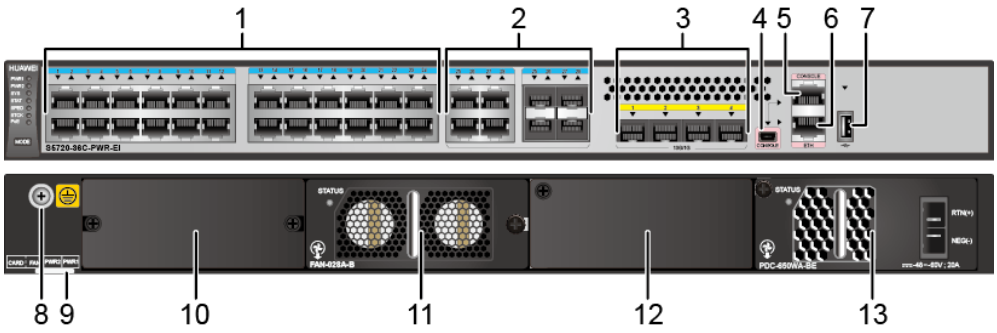
Table 3-529 lists the mapping between the S5720-36C-PWR-EI-DC chassis and software versions.

Table 6-110 Version mapping

Series		Model	Software Version
S5720-EI	S5720-C-EI	S5720-36C-PWR-EI-DC	V200R009C00 and later versions

Step 2 Appearance and Structure

Figure 6-47 S5720-36C-PWR-EI-DC appearance



1	Twenty-four PoE+ 10/100/1000BASE-T ports	2	Four combo ports (10/100/1000BASE-T (PoE+) + 100/1000BASE-X) Modules applicable to the combo optical ports: • FE optical module • GE optical module • GE-CWDM optical module • GE-DWDM optical module
3	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables	4	One mini USB port

5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	ETH management port
7	One USB port	8	Ground screw **NOTE** It is used with a ground cable.
9	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.	10	Rear card slot **NOTE** Card supported: • 7.17 ES5D21X02S01 (2-Port 10 Gig SFP+ Rear Interface Card, Used in S5720-EI Series) • 7.18 ES5D21X02T01 (2-Port 10 Gig RJ45 Rear Interface Card, Used in S5720-EI Series) • 7.19 ES5D21VST000 (Dedicated Stack Card with 2*QSFP+ Interface, Used in S5720-EI Series)
11	Fan slot **NOTE** Applicable fan module: 6.3 FAN-028A-B Fan Module	12	Power module slot 2 **NOTE** Applicable power modules: • 500 W AC PoE power module • 650 W DC PoE power module
13	Power module slot 1 **NOTE** Applicable power modules: • 500 W AC PoE power module • 650 W DC PoE power module	-	-

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-530 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-111 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex

Attribute	Description
Maximum transmission distance	100 m

Combo port

A combo port refers to a pair of ports consisting of an optical Ethernet port and an electrical Ethernet port on the panel. Each combo port matches only one internal forwarding port. A combo port can be configured as an electrical port or an optical port, but only one port can be active at a time. When one port is active, the other port is shut down.

NOTE

By default, a combo port works in auto mode, in which the port type is determined as follows:

- If the optical port has no optical module installed and the electrical port has no network cable connected, the port type depends on which port is connected first. If the electrical port is connected by a network cable first, the electrical port is used for data switching. If the optical port has an optical module installed first, the optical port is used for data switching.
- If the electrical port has a network cable connected and is in Up state, the electrical port is still used for data switching when the optical port has an optical module installed.
- If the optical port, no matter in Up or Down state, has an optical module installed, the optical port is still used for data switching when the electrical port has a network cable connected.
- If the optical port has an optical module installed and the electrical port has a network cable connected, the optical port is used for data switching after the switch restarts.

You can configure a combo port as an electrical or optical port using the **combo-port** command.

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 3-531 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-112 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 3-532.

Table 6-113 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-533 describes the attributes of an ETH management port.

Table 6-114 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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

The S5720-36C-PWR-EI-DC have the same types of indicators as the S5720-36C-PWR-EI-AC. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-36C-PWR-EI-DC is a PoE switch. It has two power module slots, each of which can have a 500 W or 650 W power module installed. A power module can provide 369.6 W of PoE power for powered devices (PDs). A 500 W AC power module and a 650 W DC power module can be used together in the switch. Table 3-534 lists its power supply configurations.

Table 6-115 Power supply configurations

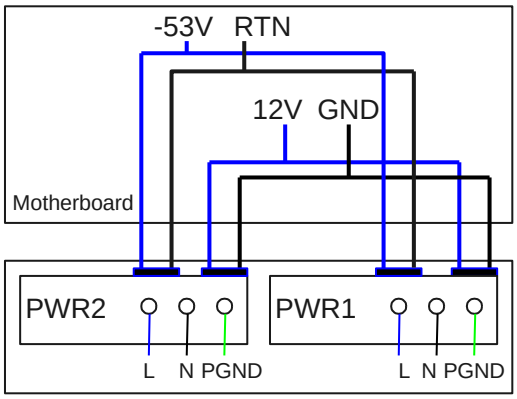
Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
500 W or 650 W	-	369.6 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 12
500 W or 650 W	500 W or 650 W	739.2 W	• 802.3af (15.4 W per port): 28 • 802.3at (30 W per port): 24

NOTE

When a switch has two power modules installed, the two power modules work in redundancy mode to provide power for the chassis and in load balancing mode to provide power for PDs.

Figure 3-200 shows the power supply mode of dual AC PoE power modules (PWR1 and PWR2). After AC power is transmitted to the PWR modules, the PWR modules provide 12 V and -53 V outputs. The outputs are combined on the motherboard, which then provides 12 V voltage for the switch and -53 V voltage for the PDs.

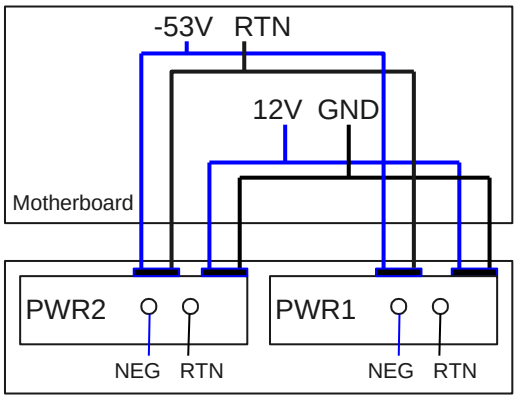
Figure 6-48 Power supply by dual AC PoE power modules



L: live wire | N: neutral wire | PGND: protection ground | GND: 12 V reference ground | RTN: -53 V reference ground

Figure 3-201 shows the power supply connections of dual DC PoE power modules. After DC power is transmitted to the PWR module, the PWR module provides 12 V and -53 V output voltages, and the motherboard provides 12 V voltage for the entire device and -53 V voltage for the PDs.

Figure 6-49 Power supply connections of dual DC PoE power modules



NEG: negative cable | RTN: positive cable | GND: 12 V reference ground | RTN: -53 V reference ground

Step 6 Heat Dissipation

The S5720-36C-PWR-EI-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 3-535 lists technical specifications of the S5720-36C-PWR-EI-DC.

Table 6-116 Technical specifications

Item	Description
Memory (RAM)	2 GB

Item	Description
Flash	340 MB
Mean time between failures (MTBF)	60.72 years when no card is configured; 56.97 years when a 2-port 10GE SFP+ interface card is configured; 55.72 years when a 2-port 10GE RJ45 interface card is configured; 55.82 years when a stack card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	• Using 500 W AC power modules: ±6 kV in differential mode, ±6 kV in common mode • Using 650 W DC power modules: ±2 kV in differential mode, ±4 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	• Empty: ≤ 8 kg (17.64 lb) • Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	• Ports on the 2-port 10GE SFP+ rear interface card • Ports on the 2-port 10GE RJ45 rear interface card • Ports on the 2-port QSFP+ rear stack card
RPS	Not supported
PoE	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)	• Without PoE: 78 W • 100% PoE loads: 864.3 W (system power consumption: 124.3 W, PoE: 740 W)
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal	< 53.7 dBA

Item	Description
temperature (27 ℃, sound power)	
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.7 S5720-56C-EI-AC

Step 1 Version Mapping

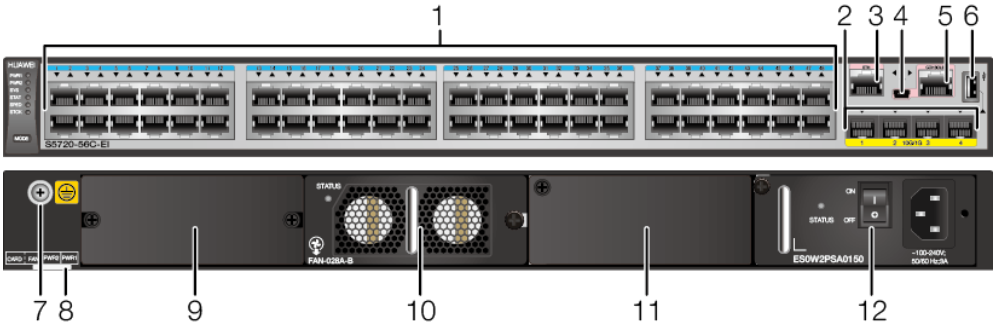
Table 3-536 lists the mapping between the S5720-56C-EI-AC chassis and software versions.

Table 6-117 Version mapping

Series		Model	Software Version
S5720-EI	S5720-C-EI	S5720-56C-EI-AC	V200R007C00 and later versions **NOTE** This model does not match V200R007C10.

Step 2 Appearance and Structure

Figure 6-50 S5720-56C-EI-AC appearance



1	Forty-eight 10/100/1000BASE-T ports	2	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables
3	ETH management port	4	One mini USB port
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	One USB port
7	Ground screw **NOTE** It is used with a ground cable.	8	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.
9	Rear card slot **NOTE** Card supported: • 7.17 ES5D21X02S01 (2-Port 10 Gig SFP+ Rear Interface Card, Used in S5720-EI Series) • 7.18 ES5D21X02T01 (2-Port 10 Gig RJ45 Rear Interface Card, Used in S5720-EI Series) • 7.19 ES5D21VST000 (Dedicated Stack Card with 2*QSFP+ Interface, Used in S5720-EI Series)	10	Fan slot **NOTE** Applicable fan module: 6.3 FAN-028A-B Fan Module
11	Power module slot 2 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module	12	Power module slot 1 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-537 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-118 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

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 3-538 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-119 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 3-539.

Table 6-120 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-540 describes the attributes of an ETH management port.

Table 6-121 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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

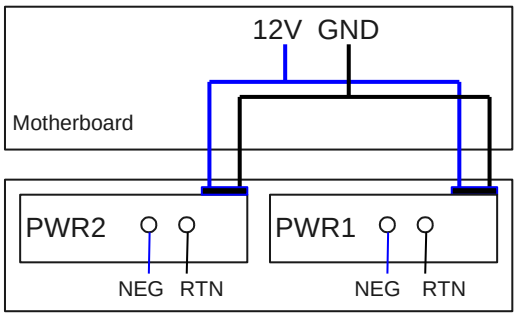
The S5720-56C-EI-AC has similar indicators to those on the S5720-36C-PWR-EI-AC, except that the S5720-56C-EI-AC does not have a PoE mode indicator. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-56C-EI-AC uses pluggable power modules. It can be configured with a single power module or double power modules for 1+1 power redundancy. Pluggable AC and DC power modules can be used together in the same switch.

Figure 3-203 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.

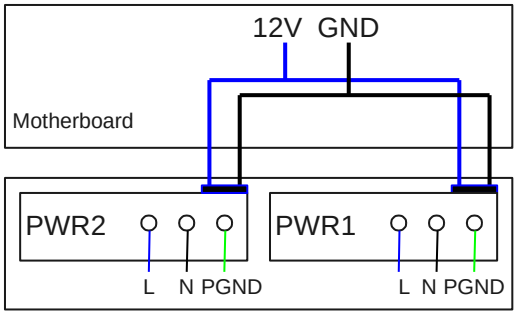
Figure 6-51 Power supply connections of dual DC power modules



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

Figure 3-204 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 6-52 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 S5720-56C-EI-AC 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 3-541 lists technical specifications of the S5720-56C-EI-AC.

Table 6-122 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	71.18 years when no card is configured; 66.07 years when a 2-port 10GE SFP+ interface card is configured; 66.40 years when a 2-port 10GE RJ45 interface card is configured; 64.53 years when a stack card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	• 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	• Empty: ≤ 8 kg (17.64 lb) • Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	• Ports on the 2-port 10GE SFP+ rear interface card • Ports on the 2-port 10GE RJ45 rear interface card • Ports on the 2-port QSFP+ rear stack card
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 -36 V DC to -72 V DC
Maximum power consumption (100% throughput, full speed of fans)	86.9 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 51.2 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	• AC power modules configured: 0-5000 m (0-16404 ft.) • DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.8 S5720-56C-EI-DC

Step 1 Version Mapping

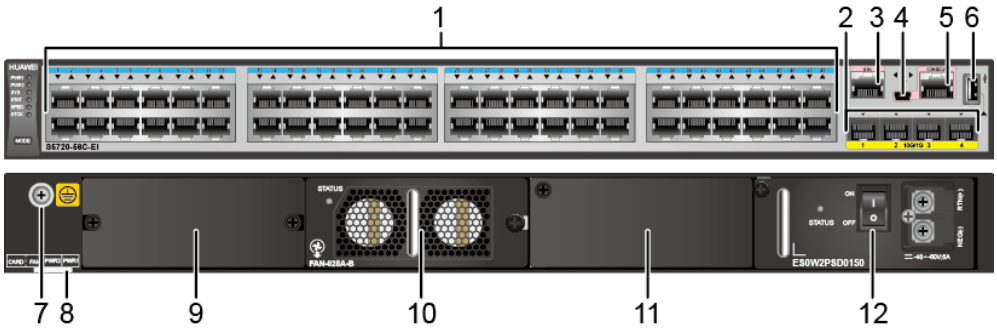
Table 3-542 lists the mapping between the S5720-56C-EI-DC chassis and software versions.

Table 6-123 Version mapping

Series		Model	Software Version
S5720-EI	S5720-C-EI	S5720-56C-EI-DC	V200R009C00 and later versions

Step 2 Appearance and Structure

Figure 6-53 S5720-56C-EI-DC appearance



1	Forty-eight 10/100/1000BASE-T ports	2	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables
3	ETH management port	4	One mini USB port
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	One USB port
7	Ground screw **NOTE** It is used with a ground cable.	8	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.
9	Rear card slot **NOTE** Card supported: • 7.17 ES5D21X02S01 (2-Port 10 Gig SFP+ Rear Interface Card, Used in S5720-EI Series)	10	Fan slot **NOTE** Applicable fan module: 6.3 FAN-028A-B Fan Module

	• 7.18 ES5D21X02T01 (2-Port 10 Gig RJ45 Rear Interface Card, Used in S5720-EI Series) • 7.19 ES5D21VST000 (Dedicated Stack Card with 2*QSFP+ Interface, Used in S5720-EI Series)		
11	Power module slot 2 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module	12	Power module slot 1 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-543 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-124 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

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 3-544 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-125 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

Attribute	Description
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 3-545.

Table 6-126 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-546 describes the attributes of an ETH management port.

Table 6-127 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	100 m

Attribute	Description
distance	

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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

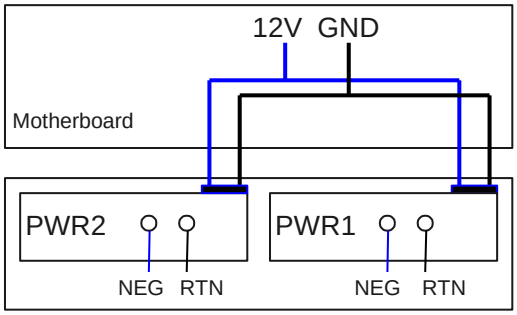
The S5720-56C-EI-DC has similar indicators to those on the S5720-36C-PWR-EI-AC, except that the S5720-56C-EI-DC does not have a PoE mode indicator. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-56C-EI-DC uses pluggable power modules. It can be configured with a single power module or double power modules for 1+1 power redundancy. Pluggable AC and DC power modules can be used together in the same switch.

Figure 3-206 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.

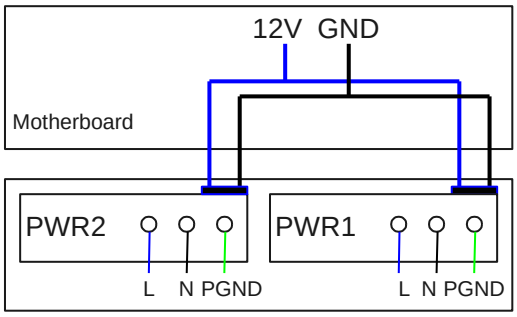
Figure 6-54 Power supply connections of dual DC power modules



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

Figure 3-207 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 6-55 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 S5720-56C-EI-DC has 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 3-547 lists technical specifications of the S5720-56C-EI-DC.

Table 6-128 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	71.18 years when no card is configured; 66.07 years when a 2-port 10GE SFP+ interface card is configured; 66.40 years when a 2-port 10GE RJ45 interface card is configured; 64.53 years when a stack card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999

Item	Description
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	• 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	• Empty: ≤ 8 kg (17.64 lb) • Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	• Ports on the 2-port 10GE SFP+ rear interface card • Ports on the 2-port 10GE RJ45 rear interface card • Ports on the 2-port QSFP+ rear stack card
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 (100% throughput, full speed of fans)	86.9 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 51.2 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	• AC power modules configured: 0-5000 m (0-16404 ft.) • DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.9 S5720-56C-EI-48S-AC

Step 1 Version Mapping

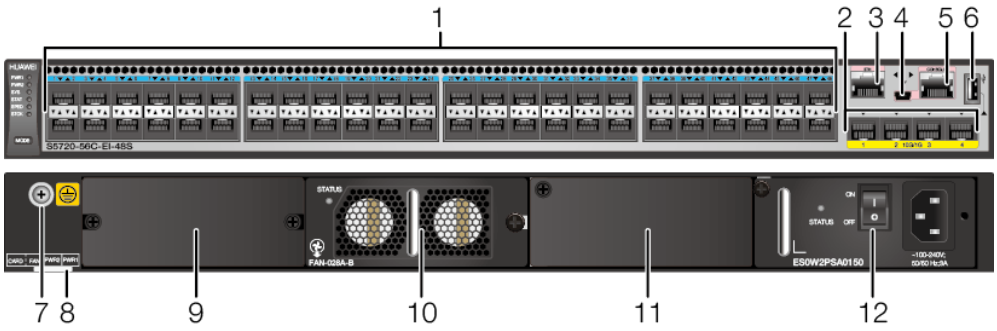
Table 3-548 lists the mapping between the S5720-56C-EI-48S-AC chassis and software versions.

Table 6-129 Version mapping

Series		Model	Software Version
S5720-EI	S5720-C-EI	S5720-56C-EI-48S-AC	V200R007C00 and later versions **NOTE** This model does not match V200R007C10.

Step 2 Appearance and Structure

Figure 6-56 S5720-56C-EI-48S-AC appearance



1	Forty-eight 100/1000BASE-X ports Applicable modules: • FE optical module • GE optical module • GE-CWDM optical module • GE copper module	2	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions)

			• 3 m and 10 m AOC cables
3	ETH management port	4	One mini USB port
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	One USB port
7	Ground screw **NOTE** It is used with a ground cable.	8	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.
9	Rear card slot **NOTE** Card supported: • 7.17 ES5D21X02S01 (2-Port 10 Gig SFP+ Rear Interface Card, Used in S5720-EI Series) • 7.18 ES5D21X02T01 (2-Port 10 Gig RJ45 Rear Interface Card, Used in S5720-EI Series) • 7.19 ES5D21VST000 (Dedicated Stack Card with 2*QSFP+ Interface, Used in S5720-EI Series)	10	Fan slot **NOTE** Applicable fan module: 6.3 FAN-028A-B Fan Module
11	Power module slot 2 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module	12	Power module slot 1 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module

Step 3 Port Description

100/1000BASE-X port

A 100/1000BASE-X port can send and receive data at 100 Mbit/s or 1000 Mbit/s. Table 3-549 describes the attributes of a 100/1000BASE-X port.

Table 6-130 Attributes of a 100/1000BASE-X port

Attribute	Description
Connector type	LC/PC
Optical interface attributes	Depend on the optical module used
Standards compliance	IEEE802.3z
Working mode	100/1000 Mbit/s auto-sensing Full-duplex

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 3-550 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-131 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 3-551.

Table 6-132 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-552 describes the attributes of an ETH management port.

Table 6-133 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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

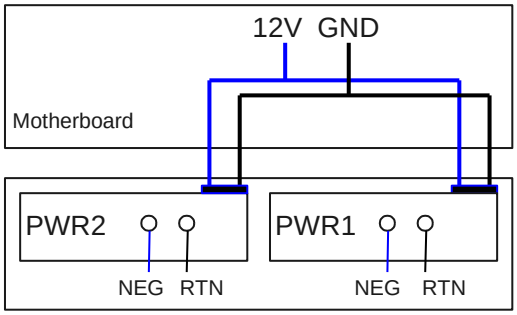
The S5720-56C-EI-48S-AC have the same types of indicators as the S5720-36C-EI-28S-AC. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-56C-EI-48S-AC uses pluggable power modules. It can be configured with a single power module or double power modules for 1+1 power redundancy. Pluggable AC and DC power modules can be used together in the same switch.

Figure 3-209 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.

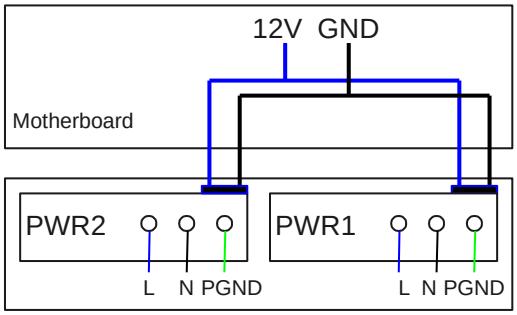
Figure 6-57 Power supply connections of dual DC power modules



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

Figure 3-210 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 6-58 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 S5720-56C-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.

NOTE

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

Step 7 Technical Specifications

Table 3-553 lists technical specifications of the S5720-56C-EI-48S-AC.

Table 6-134 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	73.91 years when no card is configured; 68.42 years when a 2-port 10GE SFP+ interface card is configured; 66.63 years when a 2-port 10GE RJ45 interface card is configured; 66.77 years when a stack card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	NA
Power supply surge protection	• 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	• Empty: ≤ 8 kg (17.64 lb) • Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	• Ports on the 2-port 10GE SFP+ rear interface card • Ports on the 2-port 10GE RJ45 rear interface card • Ports on the 2-port QSFP+ rear stack card
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 (100% throughput, full speed of fans)	104 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)

Item	Description
temperature	
Noise under normal temperature (27 ℃, sound power)	< 51.2 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	• AC power modules configured: 0-5000 m (0-16404 ft.) • DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.10 S5720-56C-EI-48S-DC

Step 1 Version Mapping

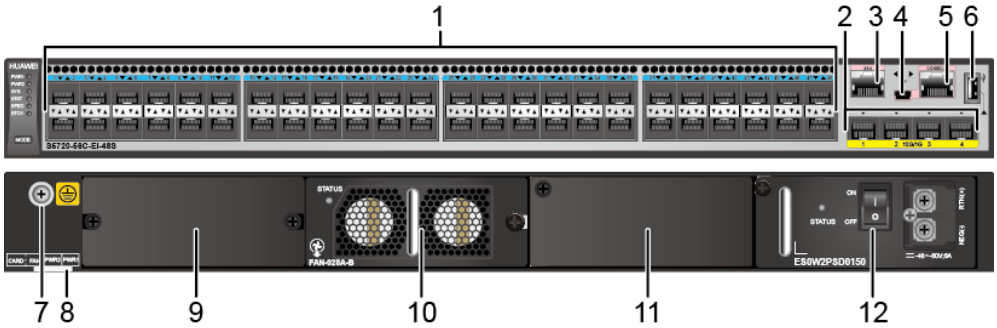
Table 3-554 lists the mapping between the S5720-56C-EI-48S-DC chassis and software versions.

Table 6-135 Version mapping

Series		Model	Software Version
S5720-EI	S5720-C-EI	S5720-56C-EI-48S-DC	V200R009C00 and later versions

Step 2 Appearance and Structure

Figure 6-59 S5720-56C-EI-48S-DC appearance



1	Forty-eight 100/1000BASE-X ports Applicable modules:	2	Four 10GE SFP+ ports Applicable modules and cables:

	• FE optical module • GE optical module • GE-CWDM optical module • GE copper module		• 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables
3	ETH management port	4	One mini USB port
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	One USB port
7	Ground screw **NOTE** It is used with a ground cable.	8	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.
9	Rear card slot **NOTE** Card supported: • 7.17 ES5D21X02S01 (2-Port 10 Gig SFP+ Rear Interface Card, Used in S5720-EI Series) • 7.18 ES5D21X02T01 (2-Port 10 Gig RJ45 Rear Interface Card, Used in S5720-EI Series) • 7.19 ES5D21VST000 (Dedicated Stack Card with 2*QSFP+ Interface, Used in S5720-EI Series)	10	Fan slot **NOTE** Applicable fan module: 6.3 FAN-028A-B Fan Module
11	Power module slot 2 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module	12	Power module slot 1 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module

Step 3 Port Description

100/1000BASE-X port

A 100/1000BASE-X port can send and receive data at 100 Mbit/s or 1000 Mbit/s. Table 3-555 describes the attributes of a 100/1000BASE-X port.

Table 6-136 Attributes of a 100/1000BASE-X port

Attribute	Description
Connector type	LC/PC
Optical interface attributes	Depend on the optical module used
Standards compliance	IEEE802.3z
Working mode	100/1000 Mbit/s auto-sensing Full-duplex

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 3-556 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-137 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 3-557.

Table 6-138 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-558 describes the attributes of an ETH management port.

Table 6-139 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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

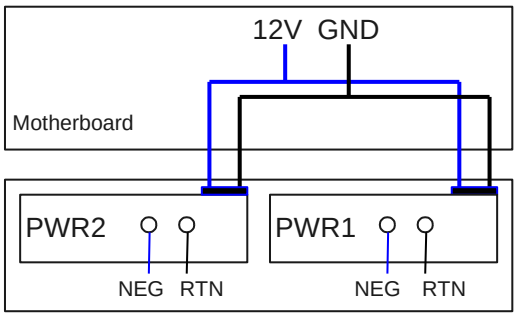
The S5720-56C-EI-48S-DC have the same types of indicators as the S5720-36C-EI-28S-AC. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-56C-EI-48S-DC uses pluggable power modules. It can be configured with a single power module or double power modules for 1+1 power redundancy. Pluggable AC and DC power modules can be used together in the same switch.

Figure 3-212 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.

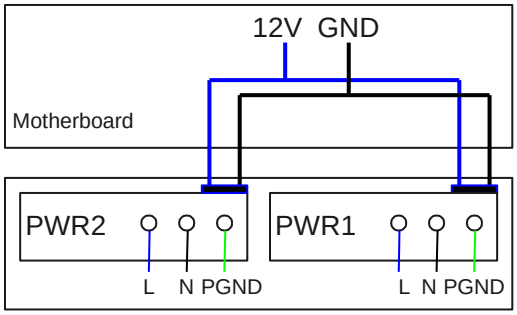
Figure 6-60 Power supply connections of dual DC power modules



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

Figure 3-213 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 6-61 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 S5720-56C-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.

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

Step 7 Technical Specifications

Table 3-559 lists technical specifications of the S5720-56C-EI-48S-DC.

Table 6-140 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	73.91 years when no card is configured; 68.42 years when a 2-port 10GE SFP+ interface card is configured; 66.63 years when a 2-port 10GE RJ45 interface card is configured; 66.77 years when a stack card is configured
Mean time to repair (MTTR)	2
Availability	> 0.99999
Service port surge protection	NA
Power supply surge protection	• 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	• Empty: ≤ 8 kg (17.64 lb) • Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	• Ports on the 2-port 10GE SFP+ rear interface card • Ports on the 2-port 10GE RJ45 rear interface card • Ports on the 2-port QSFP+ rear stack card

Item	Description
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 (100% throughput, full speed of fans)	104 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 51.2 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	• AC power modules configured: 0-5000 m (0-16404 ft.) • DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.11 S5720-56C-PWR-EI-AC

Step 1 Version Mapping

Table 3-560 lists the mapping between the S5720-56C-PWR-EI-AC chassis and software versions.

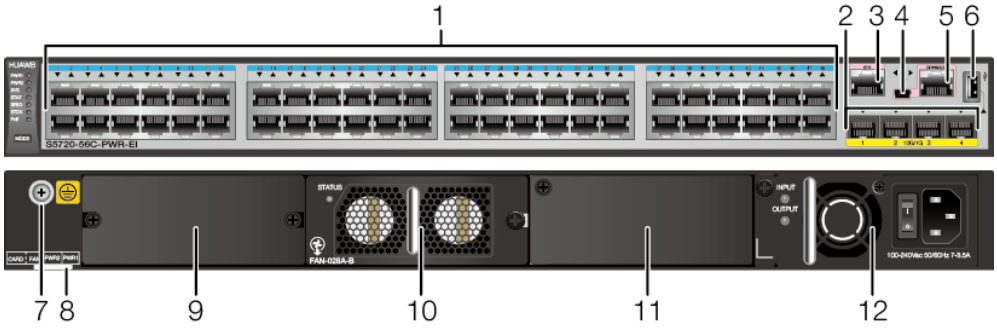
Table 6-141 Version mapping

Series		Model	Software Version
S5720-EI	S5720-C-EI	S5720-56C-PWR-EI-AC	V200R007C00 and later versions **NOTE** This model does not match

Series		Model	Software Version
			V200R007C10.

Step 2 Appearance and Structure

Figure 6-62 S5720-56C-PWR-EI-AC appearance



1	Forty-eight PoE+ 10/100/1000BASE-T ports	2	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables
3	ETH management port	4	One mini USB port
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	One USB port
7	Ground screw **NOTE** It is used with a ground cable.	8	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.

9	Rear card slot **NOTE** Card supported: • 7.17 ES5D21X02S01 (2-Port 10 Gig SFP+ Rear Interface Card, Used in S5720-EI Series) • 7.18 ES5D21X02T01 (2-Port 10 Gig RJ45 Rear Interface Card, Used in S5720-EI Series) • 7.19 ES5D21VST000 (Dedicated Stack Card with 2*QSFP+ Interface, Used in S5720-EI Series)	10	Fan slot **NOTE** Applicable fan module: 6.3 FAN-028A-B Fan Module
11	Power module slot 2 **NOTE** Applicable power modules: • 500 W AC PoE power module • 650 W DC PoE power module	12	Power module slot 1 **NOTE** Applicable power modules: • 500 W AC PoE power module • 650 W DC PoE power module

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-561 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-142 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

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 3-562 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-143 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 3-563.

Table 6-144 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-564 describes the attributes of an ETH management port.

Table 6-145 Attributes of an ETH management port

Attribute	Description
Connector type	RJ45

Attribute	Description
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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

The S5720-56C-PWR-EI-AC have the same types of indicators as the S5720-36C-PWR-EI-AC. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-56C-PWR-EI-AC is a PoE switch. It has two power module slots, each of which can have a 500 W or 650 W power module installed. A power module can provide 369.6 W of PoE power for powered devices (PDs). A 500 W AC power module and a 650 W DC power module can be used together in the switch. Table 3-565 lists its power supply configurations.

Table 6-146 Power supply configurations

Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
500 W or 650 W	-	369.6 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 12
500 W or 650 W	500 W or 650 W	739.2 W	• 802.3af (15.4 W per port): 48 • 802.3at (30 W per port): 24

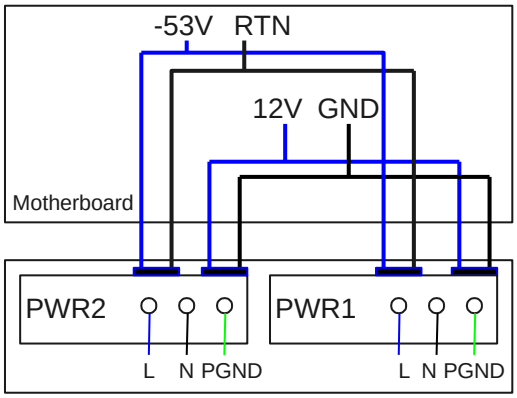
NOTE

When a switch has two power modules installed, the two power modules work in redundancy mode to provide power for the chassis and in load balancing mode to provide power for PDs.

Figure 3-215 shows the power supply mode of dual AC PoE power modules (PWR1 and PWR2). After AC power is transmitted to the PWR modules, the PWR modules provide 12 V

and -53 V outputs. The outputs are combined on the motherboard, which then provides 12 V voltage for the switch and -53 V voltage for the PDs.

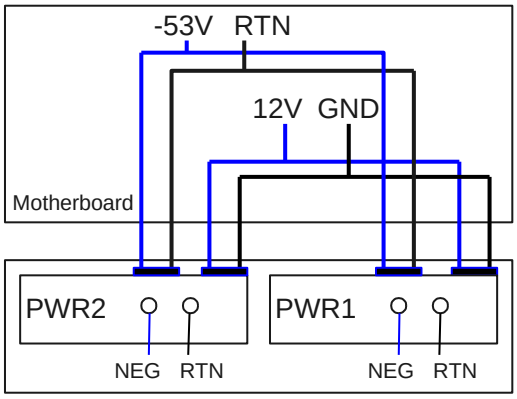
Figure 6-63 Power supply by dual AC PoE power modules



L: live wire	N: neutral wire	PGND: protection ground	GND: 12 V reference ground	RTN: -53 V reference ground

Figure 3-216 shows the power supply connections of dual DC PoE power modules. After DC power is transmitted to the PWR module, the PWR module provides 12 V and -53 V output voltages, and the motherboard provides 12 V voltage for the entire device and -53 V voltage for the PDs.

Figure 6-64 Power supply connections of dual DC PoE power modules



NEG: negative cable	RTN: positive cable	GND: 12 V reference ground	RTN: -53 V reference ground

Step 6 Heat Dissipation

The S5720-56C-PWR-EI-AC 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 3-566 lists technical specifications of the S5720-56C-PWR-EI-AC.

Table 6-147 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	51.34 years when no card is configured; 48.63 years when a 2-port 10GE SFP+ interface card is configured; 47.71 years when a 2-port 10GE RJ45 interface card is configured; 47.79 years when a stack card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	• Using 500 W AC power modules: ±6 kV in differential mode, ±6 kV in common mode • Using 650 W DC power modules: ±2 kV in differential mode, ±4 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	• Empty: ≤ 8 kg (17.64 lb) • Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	• Ports on the 2-port 10GE SFP+ rear interface card • Ports on the 2-port 10GE RJ45 rear interface card • Ports on the 2-port QSFP+ rear stack card
RPS	Not supported
PoE	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)	• Without PoE: 91.6 W • 100% PoE loads: 889.4 W (system power consumption: 149.4 W, PoE: 740 W)
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 53.7 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.12 S5720-56C-PWR-EI-DC

Step 1 Version Mapping

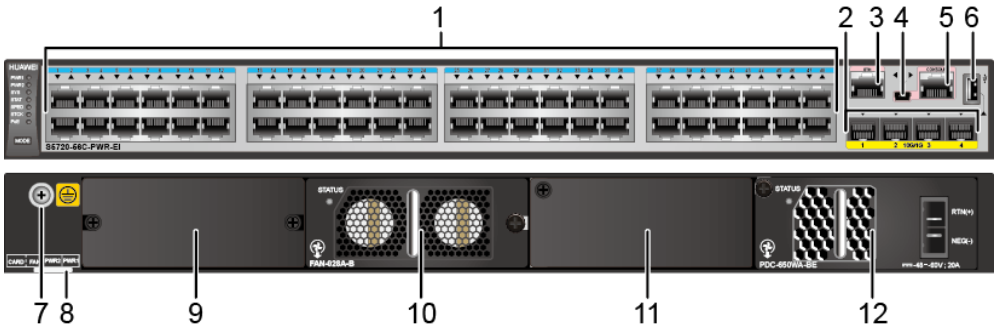
Table 3-567 lists the mapping between the S5720-56C-PWR-EI-DC chassis and software versions.

Table 6-148 Version mapping

Series		Model	Software Version
S5720-EI	S5720-C-EI	S5720-56C-PWR-EI-DC	V200R009C00 and later versions

Step 2 Appearance and Structure

Figure 6-65 S5720-56C-PWR-EI-DC appearance



1	Forty-eight PoE+ 10/100/1000BASE-T ports	2	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables
3	ETH management port	4	One mini USB port
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	One USB port
7	Ground screw **NOTE** It is used with a ground cable.	8	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.
9	Rear card slot **NOTE** Card supported: • 7.17 ES5D21X02S01 (2-Port 10 Gig SFP+ Rear Interface Card, Used in S5720-EI Series)	10	Fan slot **NOTE** Applicable fan module: 6.3 FAN-028A-B Fan Module

	• 7.18 ES5D21X02T01 (2-Port 10 Gig RJ45 Rear Interface Card, Used in S5720-EI Series) • 7.19 ES5D21VST000 (Dedicated Stack Card with 2*QSFP+ Interface, Used in S5720-EI Series)		
11	Power module slot 2 **NOTE** Applicable power modules: • 500 W AC PoE power module • 650 W DC PoE power module	12	Power module slot 1 **NOTE** Applicable power modules: • 500 W AC PoE power module • 650 W DC PoE power module

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-568 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-149 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

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 3-569 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-150 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

Attribute	Description
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 3-570.

Table 6-151 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-571 describes the attributes of an ETH management port.

Table 6-152 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	100 m

Attribute	Description
distance	

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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

The S5720-56C-PWR-EI-DC has the same types of indicators as the S5720-36C-PWR-EI-AC. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-56C-PWR-EI-DC is a PoE switch. It has two power module slots, each of which can have a 500 W or 650 W power module installed. A power module can provide 369.6 W of PoE power for powered devices (PDs). A 500 W AC power module and a 650 W DC power module can be used together in the switch. Table 3-572 lists its power supply configurations.

Table 6-153 Power supply configurations

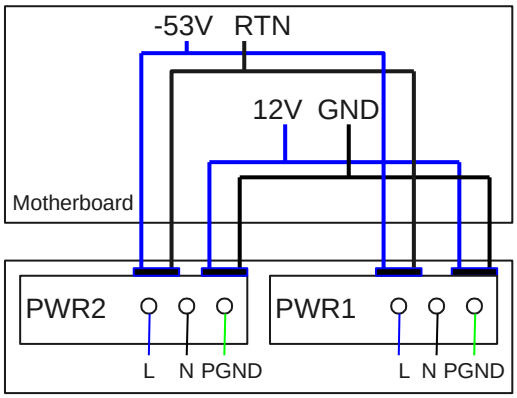
Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
500 W or 650 W	-	369.6 W	• 802.3af (15.4 W per port): 24 • 802.3at (30 W per port): 12
500 W or 650 W	500 W or 650 W	739.2 W	• 802.3af (15.4 W per port): 48 • 802.3at (30 W per port): 24

NOTE

When a switch has two power modules installed, the two power modules work in redundancy mode to provide power for the chassis and in load balancing mode to provide power for PDs.

Figure 3-218 shows the power supply mode of dual AC PoE power modules (PWR1 and PWR2). After AC power is transmitted to the PWR modules, the PWR modules provide 12 V and -53 V outputs. The outputs are combined on the motherboard, which then provides 12 V voltage for the switch and -53 V voltage for the PDs.

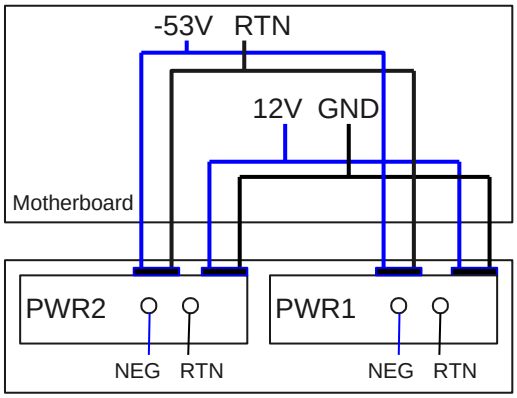
Figure 6-66 Power supply by dual AC PoE power modules



L: live wire	N: neutral wire	PGND: protection ground	GND: 12 V reference ground	RTN: -53 V reference ground

Figure 3-219 shows the power supply connections of dual DC PoE power modules. After DC power is transmitted to the PWR module, the PWR module provides 12 V and -53 V output voltages, and the motherboard provides 12 V voltage for the entire device and -53 V voltage for the PDs.

Figure 6-67 Power supply connections of dual DC PoE power modules



NEG: negative cable	RTN: positive cable	GND: 12 V reference ground	RTN: -53 V reference ground

Step 6 Heat Dissipation

The S5720-56C-PWR-EI-DC 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 3-573 lists technical specifications of the S5720-56C-PWR-EI-DC.

Table 6-154 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	51.34 years when no card is configured; 48.63 years when a 2-port 10GE SFP+ interface card is configured; 47.71 years when a 2-port 10GE RJ45 interface card is configured; 47.79 years when a stack card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	• Using 500 W AC power modules: ±6 kV in differential mode, ±6 kV in common mode • Using 650 W DC power modules: ±2 kV in differential mode, ±4 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	• Empty: ≤ 8 kg (17.64 lb) • Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	• Ports on the 2-port 10GE SFP+ rear interface card • Ports on the 2-port 10GE RJ45 rear interface card • Ports on the 2-port QSFP+ rear stack card
RPS	Not supported
PoE	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)	• Without PoE: 98 W • 100% PoE loads: 913 W (system power consumption: 173 W, PoE: 740 W)
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 53.7 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.13 S5720-56C-PWR-EI-AC1

Step 1 Version Mapping

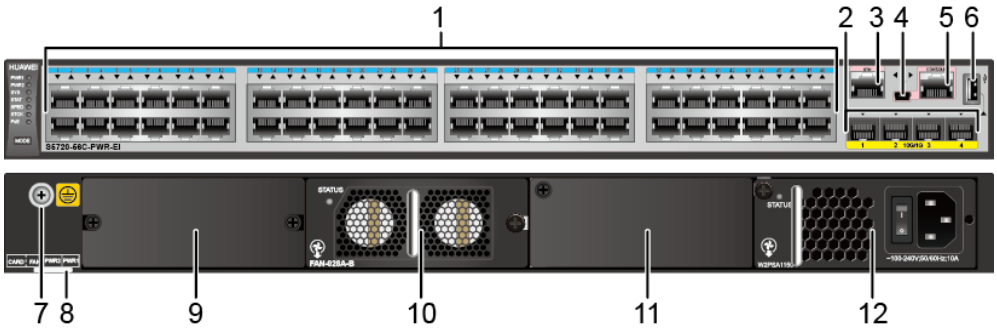
Table 3-574 lists the mapping between the S5720-56C-PWR-EI-AC1 chassis and software versions.

Table 6-155 Version mapping

Series		Model	Software Version
S5720-EI	S5720-C-EI	S5720-56C-PWR-EI-AC1	V200R007C00 and later versions **NOTE** This model does not match V200R007C10.

Step 2 Appearance and Structure

Figure 6-68 S5720-56C-PWR-EI-AC1 appearance



1	Forty-eight PoE+ 10/100/1000BASE-T ports	2	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables
3	ETH management port	4	One mini USB port
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	One USB port
7	Ground screw **NOTE** It is used with a ground cable.	8	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.
9	Rear card slot **NOTE** Card supported: • 7.17 ES5D21X02S01 (2-Port 10 Gig SFP+ Rear Interface Card, Used in S5720-EI Series)	10	Fan slot **NOTE** Applicable fan module: 6.3 FAN-028A-B Fan Module

	• 7.18 ES5D21X02T01 (2-Port 10 Gig RJ45 Rear Interface Card, Used in S5720-EI Series) • 7.19 ES5D21VST000 (Dedicated Stack Card with 2*QSFP+ Interface, Used in S5720-EI Series)		
11	Power module slot 2 **NOTE** Applicable power module: 1150 W AC PoE power module	12	Power module slot 1 **NOTE** Applicable power module: 1150 W AC PoE power module

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-575 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-156 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

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 3-576 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-157 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

Attribute	Description
	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 3-577.

Table 6-158 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-578 describes the attributes of an ETH management port.

Table 6-159 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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

The S5720-56C-PWR-EI-AC1 has the same types of indicators as the S5720-36C-PWR-EI-AC. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-56C-PWR-EI-AC1 is a PoE switch. It has two power module slots and uses 1150 W AC PoE power modules. Table 3-579 lists its power supply configurations.

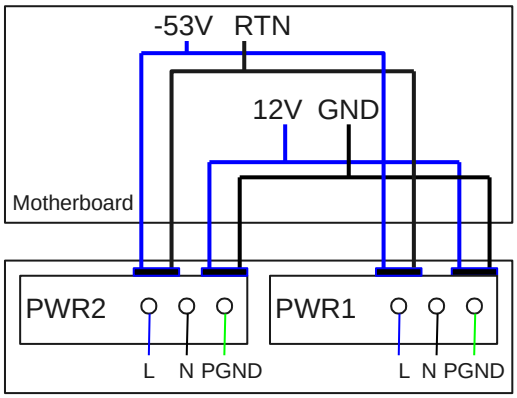
Table 6-160 Power supply configurations

Power Module 1	Power Module 2	Available PoE Power	Maximum Number of Ports (Fully Loaded)
1150 W (220 V)	–	785.4 W	• 802.3af (15.4 W per port): 48 • 802.3at (30 W per port): 26
1150 W (220 V)	1150 W (220 V)	1440 W	• 802.3af (15.4 W per port): 48 • 802.3at (30 W per port): 48
1150 W (110 V)	–	446.6 W	• 802.3af (15.4 W per port): 29 • 802.3at (30 W per port): 14
1150 W (110 V)	1150 W (110 V)	893.2 W	• 802.3af (15.4 W per port): 48 • 802.3at (30 W per port): 29

NOTE
When a switch has two power modules installed, the two power modules work in redundancy mode to provide power for the chassis and in load balancing mode to provide power for PDs.

Figure 3-221 shows the power supply mode of dual AC PoE power modules (PWR1 and PWR2). After AC power is transmitted to the PWR modules, the PWR modules provide 12 V and -53 V outputs. The outputs are combined on the motherboard, which then provides 12 V voltage for the switch and -53 V voltage for the PDs.

Figure 6-69 Power supply by dual AC PoE power modules



L: live wire	N: neutral wire	PGND: protection ground	GND: 12 V reference ground	RTN: -53 V reference ground

Step 6 Heat Dissipation

The S5720-56C-PWR-EI-AC1 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 3-580 lists technical specifications of the S5720-56C-PWR-EI-AC1.

Table 6-161 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	51.34 years when no card is configured; 48.63 years when a 2-port 10GE SFP+ interface card is configured; 47.71 years when a 2-port 10GE RJ45 interface card is configured; 47.79 years when a stack card is configured
Mean time to repair	2 hours

Item	Description
(MTTR)	
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	±2 kV in differential mode, ±4 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.) When 1150 W power modules are installed, they stretch out from the chassis. Therefore, the total depth of the switch changes to 507.3 mm (19.97 in.).
Weight	• Empty: ≤ 8 kg (17.64 lb) • Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	• Ports on the 2-port 10GE SFP+ rear interface card • Ports on the 2-port 10GE RJ45 rear interface card • Ports on the 2-port QSFP+ rear stack card
RPS	Not supported
PoE	Supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz
Maximum power consumption (100% throughput, full speed of fans)	• Without PoE: 91.6 W • 100% PoE loads: 1564.8 W (system power consumption: 124.8 W, PoE: 1440 W)
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 61.7 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.14 S5720-36PC-EI-AC

Step 1 Version Mapping

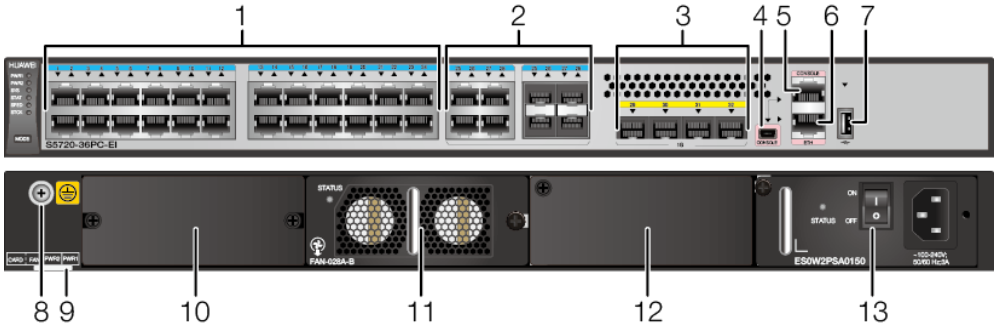
Table 3-581 lists the mapping between the S5720-36PC-EI-AC chassis and software versions.

Table 6-162 Version mapping

Series		Model	Software Version
S5720-EI	S5720-PC-EI	S5720-36PC-EI-AC	V200R007C00 and later versions **NOTE** This model does not match V200R007C10.

Step 2 Appearance and Structure

Figure 6-70 S5720-36PC-EI-AC appearance



1	Twenty-four 10/100/1000BASE-T ports	2	Four combo ports (10/100/1000BASE-T + 100/1000BASE-X) Modules applicable to the combo optical ports: • FE optical module • GE optical module • GE-CWDM optical module • GE-DWDM optical module
3	Four 1000BASE-X ports Applicable modules: • GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module (only 1000	4	One mini USB port

	Mbit/s supported)		
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	ETH management port
7	One USB port	8	Ground screw **NOTE** It is used with a ground cable.
9	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.	10	Rear card slot **NOTE** Card supported: • 7.17 ES5D21X02S01 (2-Port 10 Gig SFP+ Rear Interface Card, Used in S5720-EI Series) • 7.18 ES5D21X02T01 (2-Port 10 Gig RJ45 Rear Interface Card, Used in S5720-EI Series) • 7.19 ES5D21VST000 (Dedicated Stack Card with 2*QSFP+ Interface, Used in S5720-EI Series)
11	Fan slot **NOTE** Applicable fan module: 6.3 FAN-028A-B Fan Module	12	Power module slot 2 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module
13	Power module slot 1 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module	-	-

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-582 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-163 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing

Attribute	Description
	Full-duplex
Maximum transmission distance	100 m

Combo port

A combo port refers to a pair of ports consisting of an optical Ethernet port and an electrical Ethernet port on the panel. Each combo port matches only one internal forwarding port. A combo port can be configured as an electrical port or an optical port, but only one port can be active at a time. When one port is active, the other port is shut down.

NOTE

By default, a combo port works in auto mode, in which the port type is determined as follows:

- If the optical port has no optical module installed and the electrical port has no network cable connected, the port type depends on which port is connected first. If the electrical port is connected by a network cable first, the electrical port is used for data switching. If the optical port has an optical module installed first, the optical port is used for data switching.
- If the electrical port has a network cable connected and is in Up state, the electrical port is still used for data switching when the optical port has an optical module installed.
- If the optical port, no matter in Up or Down state, has an optical module installed, the optical port is still used for data switching when the electrical port has a network cable connected.
- If the optical port has an optical module installed and the electrical port has a network cable connected, the optical port is used for data switching after the switch restarts.

You can configure a combo port as an electrical or optical port using the **combo-port** command.

1000BASE-X port

A 1000BASE-X Ethernet optical port sends and receives service data at 1000 Mbit/s. Table 3-583 describes the attributes of a 1000BASE-X Ethernet optical port.

Table 6-164 Attributes of a 1000BASE-X Ethernet optical port

Attribute	Description
Connector type	LC/PC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3z
Working mode	1000 Mbit/s 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 3-584.

Table 6-165 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-585 describes the attributes of an ETH management port.

Table 6-166 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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

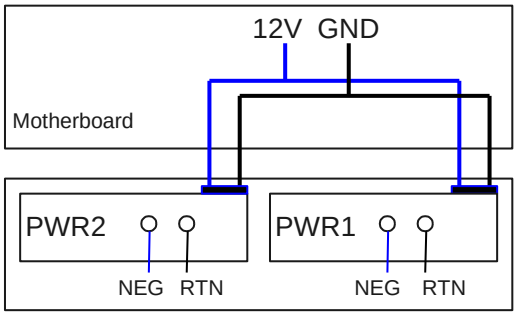
The S5720-36PC-EI-AC has similar indicators to those on the S5720-36C-PWR-EI-AC, except that the S5720-36PC-EI-AC does not have a PoE mode indicator. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-36PC-EI-AC uses pluggable power modules. It can be configured with a single power module or double power modules for 1+1 power redundancy. Pluggable AC and DC power modules can be used together in the same switch.

Figure 3-223 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.

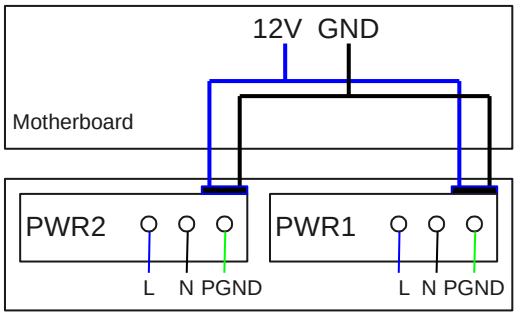
Figure 6-71 Power supply connections of dual DC power modules



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

Figure 3-224 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 6-72 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 S5720-36PC-EI-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 3-586 lists technical specifications of the S5720-36PC-EI-AC.

Table 6-167 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	80.05 years when no card is configured; 73.65 years when a 2-port 10GE SFP+ interface card is configured; 71.58 years when a 2-port 10GE RJ45 interface card is configured; 71.74 years when a stack card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	• 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	• Empty: ≤ 8 kg (17.64 lb) • Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	• Ports on the 2-port 10GE SFP+ rear interface card

Item	Description
	• Ports on the 2-port 10GE RJ45 rear interface card • Ports on the 2-port QSFP+ rear stack card
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 (100% throughput, full speed of fans)	74.6 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 51.2 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	• AC power modules configured: 0-5000 m (0-16404 ft.) • DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.15 S5720-56PC-EI-AC

Step 1 Version Mapping

Table 3-587 lists the mapping between the S5720-56PC-EI-AC chassis and software versions.

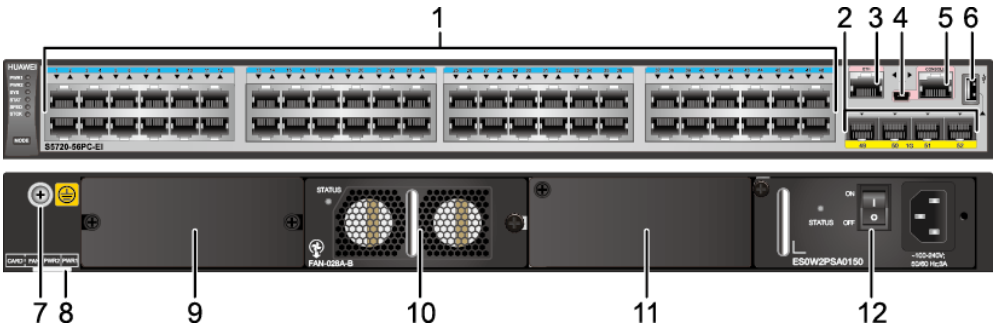
Table 6-168 Version mapping

Series		Model	Software Version
S5720-EI	S5720-PC-	S5720-56PC-EI-AC	V200R007C00 and later versions

Series		Model	Software Version
	EI		**NOTE** This model does not match V200R007C10.

Step 2 Appearance and Structure

Figure 6-73 S5720-56PC-EI-AC appearance



1	Forty-eight 10/100/1000BASE-T ports	2	Four 1000BASE-X ports Applicable modules: • GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module (only 1000 Mbit/s supported)
3	ETH management port	4	One mini USB port
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	One USB port
7	Ground screw **NOTE** It is used with a ground cable.	8	ESN label **NOTE** You can draw it out to view the ESN and MAC address of the switch.
9	Rear card slot **NOTE** Card supported: • 7.17 ES5D21X02S01 (2-Port 10 Gig SFP+ Rear Interface Card, Used in S5720-EI Series) • 7.18 ES5D21X02T01 (2-Port 10 Gig RJ45 Rear Interface Card, Used in	10	Fan slot **NOTE** Applicable fan module: 6.3 FAN-028A-B Fan Module

	S5720-EI Series) • 7.19 ES5D21VST000 (Dedicated Stack Card with 2*QSFP+ Interface, Used in S5720-EI Series)		
11	Power module slot 2 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module	12	Power module slot 1 **NOTE** Applicable power modules: • 150 W AC power module • 150 W DC power module

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-588 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-169 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

1000BASE-X port

A 1000BASE-X Ethernet optical port sends and receives service data at 1000 Mbit/s. Table 3-589 describes the attributes of a 1000BASE-X Ethernet optical port.

Table 6-170 Attributes of a 1000BASE-X Ethernet optical port

Attribute	Description
Connector type	LC/PC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3z
Working mode	1000 Mbit/s 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 3-590.

Table 6-171 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-591 describes the attributes of an ETH management port.

Table 6-172 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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

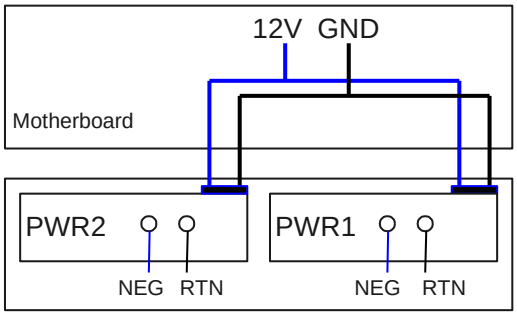
The S5720-56PC-EI-AC has similar indicators to those on the S5720-36C-PWR-EI-AC, except that the S5720-56PC-EI-AC does not have a PoE mode indicator. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-56PC-EI-AC uses pluggable power modules. It can be configured with a single power module or double power modules for 1+1 power redundancy. Pluggable AC and DC power modules can be used together in the same switch.

Figure 3-226 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.

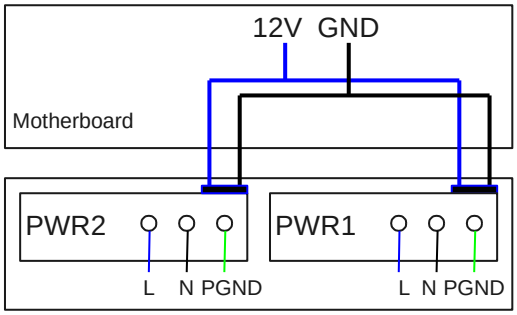
Figure 6-74 Power supply connections of dual DC power modules



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

Figure 3-227 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 6-75 Power supply connections of dual non-PoE AC power modules



L: N: PGND: Protective GND: 12 V reference

Live wire Neutral wire ground wire ground

Step 6 Heat Dissipation

The S5720-56PC-EI-AC 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 3-592 lists technical specifications of the S5720-56PC-EI-AC.

Table 6-173 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	71.18 years when no card is configured; 66.07 years when a 2-port 10GE SFP+ interface card is configured; 66.40 years when a 2-port 10GE RJ45 interface card is configured; 64.53 years when a stack card is configured
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	• 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	• Empty: ≤ 8 kg (17.64 lb)

Item	Description
	• Fully loaded: ≤ 12 kg (26.46 lb)
Stack ports	• Ports on the 2-port 10GE SFP+ rear interface card • Ports on the 2-port 10GE RJ45 rear interface card • Ports on the 2-port QSFP+ rear stack card
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 (100% throughput, full speed of fans)	85.7 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 51.2 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	• AC power modules configured: 0-5000 m (0-16404 ft.) • DC power modules configured: 0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.16 S5720-32X-EI-AC

Step 1 Version Mapping

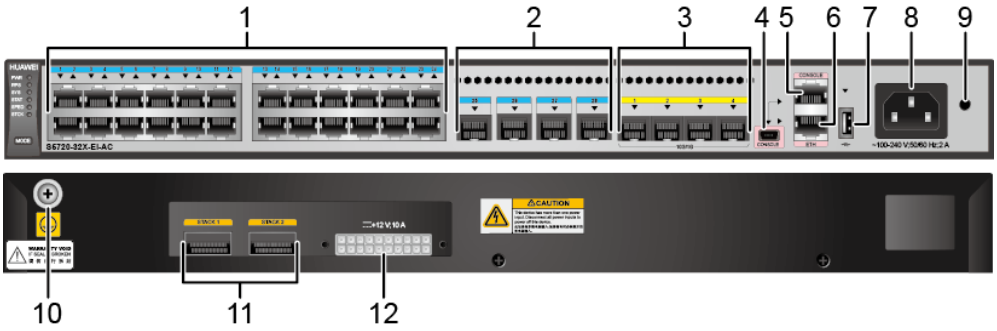
Table 3-593 lists the mapping between the S5720-32X-EI-AC chassis and software versions.

Table 6-174 Version mapping

Series		Model	Software Version
S5720-EI	S5720-X-EI	S5720-32X-EI-AC	V200R007C00 and later versions **NOTE** This model does not match V200R007C10.

Step 2 Appearance and Structure

Figure 6-76 S5720-32X-EI-AC appearance



1	Twenty-four 10/100/1000BASE-T ports	2	Four 100/1000BASE-X ports Applicable modules: • FE optical module • GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module
3	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions)	4	One mini USB port

	• 3 m and 10 m AOC cables		
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	One ETH management port
7	One USB port	8	AC socket **NOTE** It is used with an AC power cable.
9	Jack for AC terminal locking latch **NOTE** The AC terminal locking latch is not delivered with the switch.	10	Ground screw **NOTE** It is used with a ground cable.
11	Two QSFP+ stack optical ports Applicable modules and cables: • QSFP+ optical module (only QSFP-40G-SR4 and QSFP-40G-iSR supported) • 1 m, 3 m, and 5 m QSFP+ high-speed copper cables • 10 m QSFP+ AOC cable (applicable in V200R009C00 and later versions)	12	RPS socket **NOTE** It is used with an RPS cable, which is not hot swappable.

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-594 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-175 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

100/1000BASE-X port

A 100/1000BASE-X port can send and receive data at 100 Mbit/s or 1000 Mbit/s. Table 3-595 describes the attributes of a 100/1000BASE-X port.

Table 6-176 Attributes of a 100/1000BASE-X port

Attribute	Description
Connector type	LC/PC
Optical interface attributes	Depend on the optical module used
Standards compliance	IEEE802.3z
Working mode	100/1000 Mbit/s auto-sensing Full-duplex

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 3-596 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-177 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

QSFP+ stack optical port

QSFP+ stack optical ports can only be used for stack connection. Table 3-597 describes the attributes of a QSFP+ stack optical port.

Table 6-178 Attributes of a QSFP+ stack optical port

Attribute	Description
Connector type	MPO
Optical port attributes	Depend on the optical module used
Standards	IEEE802.3ae

Attribute	Description
compliance	
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 3-598.

Table 6-179 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-599 describes the attributes of an ETH management port.

Table 6-180 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	100 m

Attribute	Description
distance	

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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

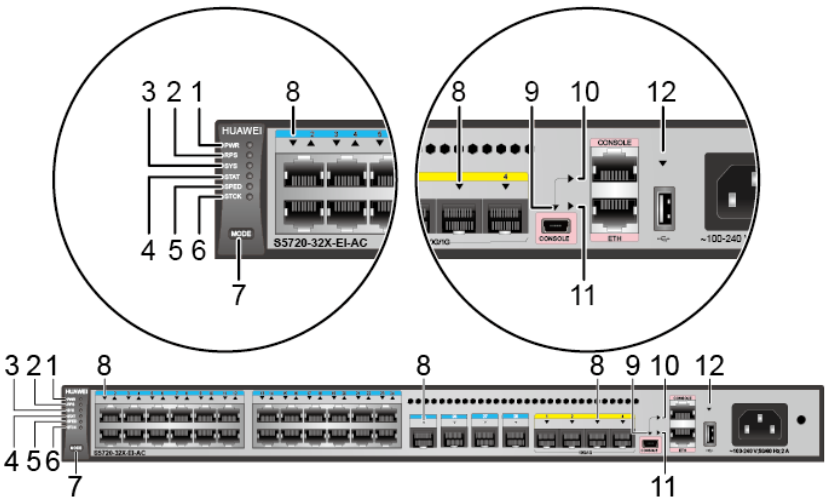
Step 4 Indicator Description

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 6-77 Indicators on the S5720-32X-EI-AC



NOTE

The S5720-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, STCK, and PoE) are used as fault indicators. When an S5720-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 fault switch.

Table 6-181 Indicator Description

No.	Indicator/Button	Color	Description
1	PWR: internal power module indicator	-	Off: The switch is not powered on.
		Green	Steady on: The power module is supplying power normally.
		Yellow	Steady on: The power module has failed, and the switch is receiving power from a redundant power supply (RPS).
2	RPS: RPS indicator	-	Off: The RPS is not properly connected to the switch.
		Green	• Steady on: The RPS is in cold standby state. • Blinking: The RPS is supplying power to another switch.
		Yellow	Blinking: The RPS is supplying power to the local switch, and the built-in power module of the switch has failed.
3	SYS: system status indicator	-	Off: The system is not running.
		Green	• 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	• Off: The status mode is not selected. • Steady on: The status mode (default mode) is selected. In this mode, service port indicators show the port link or activity state.
5	SPED: speed indicator	Green	• 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	If you are not changing the indicator mode (default state): • 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

No.	Indicator/Button	Color	Description
			switch in a stack or a standalone switch with the stacking function enabled.
			If you are changing the indicator mode: • 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. After 45 seconds, the service port indicators automatically restore to the status mode.
7	MODE: mode switch button	-	• 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 this 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. 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.
8	Service port indicator (one indicator for each port)	Meanings of service port indicators vary in different modes. For details, see Table 3-601.	
9	Mini USB indicator	Green	• Off: The Mini USB port is disabled, and the console port is enabled. • Steady on: The Mini USB port is enabled. When the Mini USB indicator is steady green, the console indicator is off.

No.	Indicator/Button	Color	Description
10	Console indicator	Green	• Off: The console port is disabled, and the Mini USB port is enabled. • Steady on: The console port is enabled (default state). When the console indicator is steady green, the Mini USB indicator is off.
11	ETH port indicator	Green	• Off: The ETH management port is not connected. • Steady on: The ETH management port is connected. • Blinking: The port is sending or receiving data.
12	USB-based deployment indicator	-	Off: • 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	• Steady on: A USB-based deployment has been completed. • Blinking: The system is reading data from the 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 6-182 Description of service port indicators in different modes (one indicator for each port)

Display Mode	Color	Description
Status	Green	• Off: The port is not connected or has been shut down. • Steady on: The port is connected. • Blinking: The port is sending or

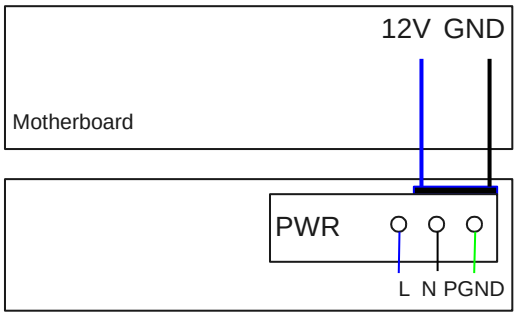
Display Mode	Color	Description
		receiving data.
Speed	Green	• Off: The port is not connected or has been shut down. • Steady on: 10M/100M/1000M port: The port is operating at 10/100 Mbit/s. 1000M/10GE port: The port is operating at 1000 Mbit/s. • Blinking: 10M/100M/1000M port: The port is operating at 1000 Mbit/s. 1000M/10GE port: The port is operating at 10 Gbit/s.
Stack	Green	• Off: Port indicators do not show the stack ID of the switch. • If the indicator is steady on, the switch is not a master switch: ◆ 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 are steady on, the stack ID of the switch is 0. • If the indicator is blinking, the switch is a master switch: ◆ 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 are blinking, the stack ID of the switch is 0.

Step 5 Power Supply Configuration

The S5720-32X-EI-AC has a built-in power module and does not support pluggable power modules. It can connect to an RPS1800 power supply for power redundancy.

Figure 3-230 shows the power supply mode of a built-in AC power module. The built-in AC power module (PWR) receives power from an external power source and provides a 12 V output to the chassis.

Figure 6-78 Power supply mode of a built-in AC power module



L: live wire N: neutral wire PGND: protection ground GND: 12 V reference ground

Step 6 Heat Dissipation

The S5720-32X-EI-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 3-602 lists technical specifications of the S5720-32X-EI-AC.

Table 6-183 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	80.32 years
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV

Item	Description
Power supply surge protection	±6 kV in differential mode, ±6 kV in common mode
Dimensions (W x D x H)	442.0 mm x 220.0 mm x 43.6 mm (17.4 in. x 8.7 in. x 1.72 in.)
Weight	≤ 8 kg (17.64 lb)
Stack ports	• Two fixed QSFP+ stack ports on the rear card
RPS	Supported
PoE	Not supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz
Maximum power consumption (100% throughput, full speed of fans)	51.9 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 49.3 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.17 S5720-32X-EI-DC

Step 1 Version Mapping

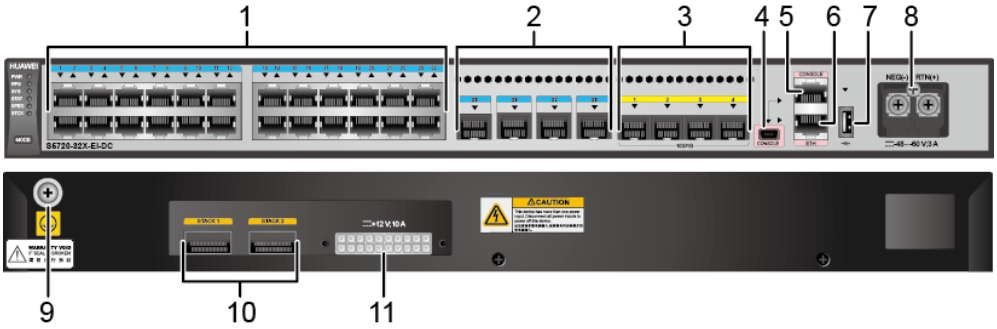
Table 3-603 lists the mapping between the S5720-32X-EI-DC chassis and software versions.

Table 6-184 Version mapping

Series		Model	Software Version
S5720-EI	S5720-X-EI	S5720-32X-EI-DC	V200R009C00 and later versions

Step 2 Appearance and Structure

Figure 6-79 S5720-32X-EI-DC appearance



1	Twenty-four 10/100/1000BASE-T ports	2	Four 100/1000BASE-X ports Applicable modules: • FE optical module • GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module
3	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables	4	One mini USB port

5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	One ETH management port
7	One USB port	8	DC power terminal **NOTE** It is used together with a DC Power Cable.
9	Ground screw **NOTE** It is used with a ground cable.	10	Two QSFP+ stack optical ports Applicable modules and cables: • QSFP+ optical module (only QSFP-40G-SR4 and QSFP-40G-iSR supported) • 1 m, 3 m, and 5 m QSFP+ high-speed copper cables • 10 m QSFP+ AOC cable (applicable in V200R009C00 and later versions)
11	RPS socket **NOTE** It is used with an RPS cable, which is not hot swappable.	-	-

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-604 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-185 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

100/1000BASE-X port

A 100/1000BASE-X port can send and receive data at 100 Mbit/s or 1000 Mbit/s. Table 3-605 describes the attributes of a 100/1000BASE-X port.

Table 6-186 Attributes of a 100/1000BASE-X port

Attribute	Description
Connector type	LC/PC
Optical interface attributes	Depend on the optical module used
Standards compliance	IEEE802.3z
Working mode	100/1000 Mbit/s auto-sensing Full-duplex

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 3-606 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-187 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

QSFP+ stack optical port

QSFP+ stack optical ports can only be used for stack connection. Table 3-607 describes the attributes of a QSFP+ stack optical port.

Table 6-188 Attributes of a QSFP+ stack optical port

Attribute	Description
Connector type	MPO
Optical port attributes	Depend on the optical module used
Standards	IEEE802.3ae

Attribute	Description
compliance	
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 3-608.

Table 6-189 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-609 describes the attributes of an ETH management port.

Table 6-190 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	100 m

Attribute	Description
distance	

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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

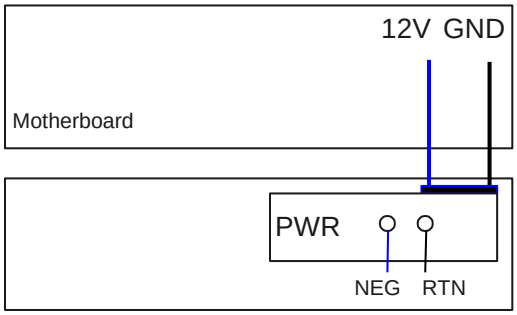
The S5720-32X-EI-DC have the same types of indicators as the S5720-32X-EI-AC. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-32X-EI-DC has a built-in power module and does not support pluggable power modules. It can connect to an RPS1800 power supply for power redundancy.

Figure 3-232 shows the power supply mode of a single DC power module. The built-in DC power module (PWR) receives DC power from an external power source and provides a 12 V output to the chassis.

Figure 6-80 Power supply by a single DC power module



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

Step 6 Heat Dissipation

The S5720-32X-EI-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.

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

Step 7 Technical Specifications

Table 3-610 lists technical specifications of the S5720-32X-EI-DC.

Table 6-191 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	80.32 years
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	±1 kV in differential mode, ±2 kV in common mode
Dimensions (W x D x H)	442.0 mm x 220.0 mm x 43.6 mm (17.4 in. x 8.7 in. x 1.72 in.)
Weight	≤ 8 kg (17.64 lb)
Stack ports	• Two fixed QSFP+ stack ports on the rear card
RPS	Supported
PoE	Not supported
Rated voltage range	-48 V DC to -60 V DC
Maximum voltage range	-36 V DC to -72 V DC
Maximum power consumption	51.9 W

Item	Description
(100% throughput, full speed of fans)	
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 49.3 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.18 S5720-32X-EI-24S-AC

Step 1 Version Mapping

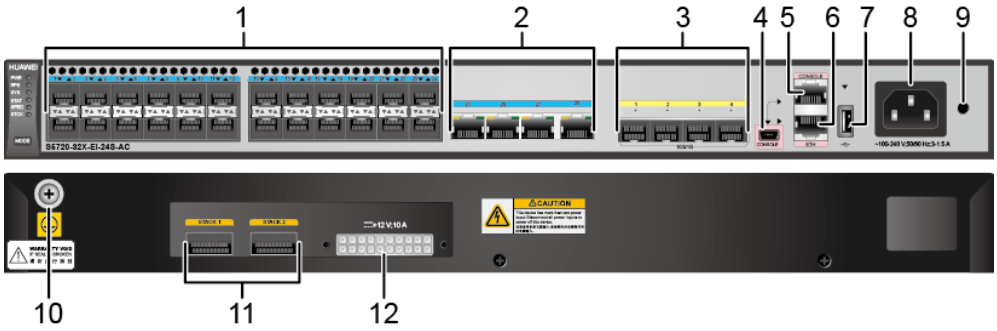
Table 3-611 lists the mapping between the S5720-32X-EI-24S-AC chassis and software versions.

Table 6-192 Version mapping

Series		Model	Software Version
S5720-EI	S5720-X-EI	S5720-32X-EI-24S-AC	V200R007C00 and later versions **NOTE** This model does not match V200R007C10.

Step 2 Appearance and Structure

Figure 6-81 S5720-32X-EI-24S-AC appearance



1	Twenty-four 100/1000BASE-X ports Applicable modules: • FE optical module • GE optical module • GE-CWDM optical module • GE copper module	2	Four 10/100/1000BASE-T ports
3	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables	4	One mini USB port
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	One ETH management port
7	One USB port	8	AC socket **NOTE** It is used with an AC power cable.

9	Jack for AC terminal locking latch **NOTE** The AC terminal locking latch is not delivered with the switch.	10	Ground screw **NOTE** It is used with a ground cable.
11	Two QSFP+ stack optical ports Applicable modules and cables: • QSFP+ optical module (only QSFP-40G-SR4 and QSFP-40G-iSR supported) • 1 m, 3 m, and 5 m QSFP+ high-speed copper cables • 10 m QSFP+ AOC cable (applicable in V200R009C00 and later versions)	12	RPS socket **NOTE** It is used with an RPS cable, which is not hot swappable.

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-612 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-193 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

100/1000BASE-X port

A 100/1000BASE-X port can send and receive data at 100 Mbit/s or 1000 Mbit/s. Table 3-613 describes the attributes of a 100/1000BASE-X port.

Table 6-194 Attributes of a 100/1000BASE-X port

Attribute	Description
Connector type	LC/PC
Optical interface attributes	Depend on the optical module used

Attribute	Description
Standards compliance	IEEE802.3z
Working mode	100/1000 Mbit/s auto-sensing Full-duplex

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 3-614 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-195 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

QSFP+ stack optical port

QSFP+ stack optical ports can only be used for stack connection. Table 3-615 describes the attributes of a QSFP+ stack optical port.

Table 6-196 Attributes of a QSFP+ stack optical port

Attribute	Description
Connector type	MPO
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ae
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 3-616.

Table 6-197 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-617 describes the attributes of an ETH management port.

Table 6-198 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 of the S5720-EI does not support USB 1.1 and

can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

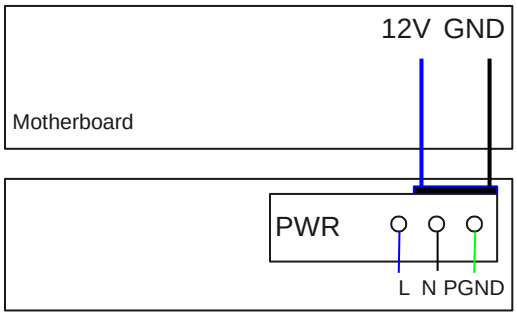
The S5720-32X-EI-24S-AC has 24 downlink optical port indicators, whereas the S5720-32X-EI-AC has 24 downlink electrical port indicators. Symbols and meanings of other indicators on the two switch models are the same. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-32X-EI-24S-AC has a built-in power module and does not support pluggable power modules. It can connect to an RPS1800 power supply for power redundancy.

Figure 3-234 shows the power supply mode of a built-in AC power module. The built-in AC power module (PWR) receives power from an external power source and provides a 12 V output to the chassis.

Figure 6-82 Power supply mode of a built-in AC power module



L: live wire N: neutral wire PGND: protection ground GND: 12 V reference ground

Step 6 Heat Dissipation

The S5720-32X-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.

NOTE

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

Step 7 Technical Specifications

Table 3-618 lists technical specifications of the S5720-32X-EI-24S-AC.

Table 6-199 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	82.54 years
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	±6 kV in differential mode, ±6 kV in common mode
Dimensions (W x D x H)	442.0 mm x 220.0 mm x 43.6 mm (17.4 in. x 8.7 in. x 1.72 in.)
Weight	≤ 8 kg (17.64 lb)
Stack ports	• Two fixed QSFP+ stack ports on the rear card
RPS	Supported
PoE	Not supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz
Maximum power consumption (100% throughput, full speed of fans)	58.9 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 49.3 dBA

Item	Description
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.19 S5720-32X-EI-24S-DC

Step 1 Version Mapping

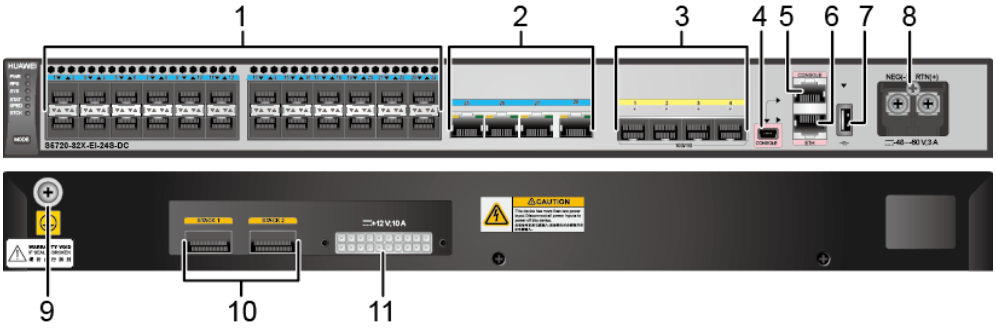
Table 3-619 lists the mapping between the S5720-32X-EI-24S-DC chassis and software versions.

Table 6-200 Version mapping

Series		Model	Software Version
S5720-EI	S5720-X-EI	S5720-32X-EI-24S-DC	V200R009C00 and later versions

Step 2 Appearance and Structure

Figure 6-83 S5720-32X-EI-24S-DC appearance



1	Twenty-four 100/1000BASE-X ports Applicable modules: • FE optical module • GE optical module • GE-CWDM optical module • GE copper module	2	Four 10/100/1000BASE-T ports

3	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables	4	One mini USB port
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	One ETH management port
7	One USB port	8	DC power terminal **NOTE** It is used together with a DC Power Cable.
9	Ground screw **NOTE** It is used with a ground cable.	10	Two QSFP+ stack optical ports Applicable modules and cables: • QSFP+ optical module (only QSFP-40G-SR4 and QSFP-40G-iSR supported) • 1 m, 3 m, and 5 m QSFP+ high-speed copper cables • 10 m QSFP+ AOC cable (applicable in V200R009C00 and later versions)
11	RPS socket **NOTE** It is used with an RPS cable, which is not hot swappable.	-	-

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-620 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-201 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

100/1000BASE-X port

A 100/1000BASE-X port can send and receive data at 100 Mbit/s or 1000 Mbit/s. Table 3-621 describes the attributes of a 100/1000BASE-X port.

Table 6-202 Attributes of a 100/1000BASE-X port

Attribute	Description
Connector type	LC/PC
Optical interface attributes	Depend on the optical module used
Standards compliance	IEEE802.3z
Working mode	100/1000 Mbit/s auto-sensing Full-duplex

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 3-622 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-203 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

Attribute	Description
	Full-duplex

QSFP+ stack optical port

QSFP+ stack optical ports can only be used for stack connection. Table 3-623 describes the attributes of a QSFP+ stack optical port.

Table 6-204 Attributes of a QSFP+ stack optical port

Attribute	Description
Connector type	MPO
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ae
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 3-624.

Table 6-205 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-625 describes the attributes of an ETH management port.

Table 6-206 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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

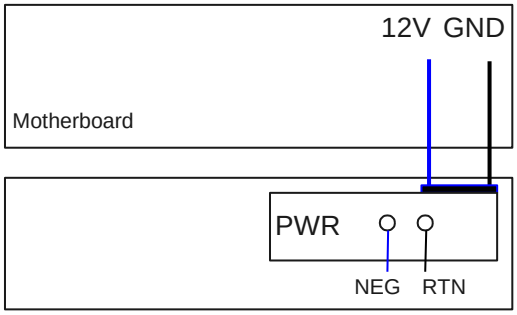
The S5720-32X-EI-24S-DC has 24 downlink optical port indicators, whereas the S5720-32X-EI-AC has 24 downlink electrical port indicators. Symbols and meanings of other indicators on the two switch models are the same. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-32X-EI-24S-DC has a built-in power module and does not support pluggable power modules. It can connect to an RPS1800 power supply for power redundancy.

Figure 3-236 shows the power supply mode of a single DC power module. The built-in DC power module (PWR) receives DC power from an external power source and provides a 12 V output to the chassis.

Figure 6-84 Power supply by a single DC power module



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

Step 6 Heat Dissipation

The S5720-32X-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.

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

Step 7 Technical Specifications

Table 3-626 lists technical specifications of the S5720-32X-EI-24S-DC.

Table 6-207 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	82.54 years
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	±1 kV in differential mode, ±2 kV in common mode
Dimensions (W x D x H)	442.0 mm x 220.0 mm x 43.6 mm (17.4 in. x 8.7 in. x 1.72 in.)
Weight	≤ 8 kg (17.64 lb)
Stack ports	• Two fixed QSFP+ stack ports on the rear card
RPS	Supported

Item	Description
PoE	Not supported
Rated voltage range	-48 V DC to -60 V DC
Maximum voltage range	-36 V DC to -72 V DC
Maximum power consumption (100% throughput, full speed of fans)	58.9 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 49.3 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.20 S5720-50X-EI-AC

Step 1 Version Mapping

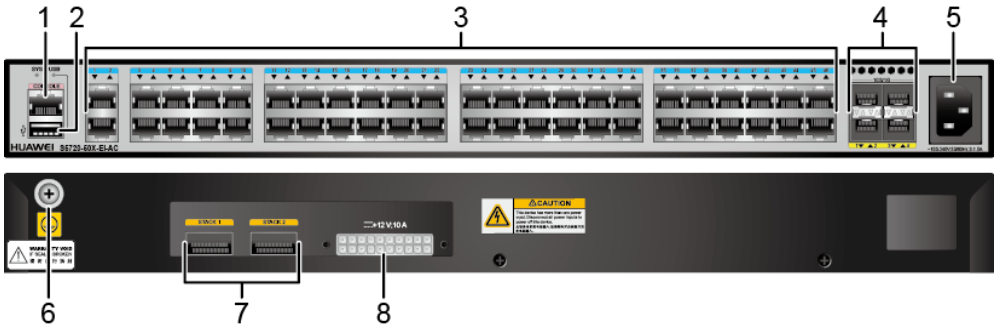
Table 3-627 lists the mapping between the S5720-50X-EI-AC chassis and software versions.

Table 6-208 Version mapping

Series		Model	Software Version
S5720-EI	S5720-X-EI	S5720-50X-EI-AC	V200R007C00 and later versions **NOTE** This model does not match V200R007C10.

Step 2 Appearance and Structure

Figure 6-85 S5720-50X-EI-AC appearance



1	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	2	One USB port
3	Forty-six 10/100/1000BASE-T ports	4	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables
5	AC socket **NOTE** It is used with an AC power cable.	6	Ground screw **NOTE** It is used with a ground cable.
7	Two QSFP+ stack optical ports Applicable modules and cables: • QSFP+ optical module (only QSFP-40G-SR4 and QSFP-40G-iSR supported) • 1 m, 3 m, and 5 m QSFP+ high-speed copper cables • 10 m QSFP+ AOC cable (applicable	8	RPS socket **NOTE** It is used with an RPS cable, which is not hot swappable.

	in V200R009C00 and later versions)		

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-628 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-209 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

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 3-629 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-210 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

QSFP+ stack optical port

QSFP+ stack optical ports can only be used for stack connection. Table 3-630 describes the attributes of a QSFP+ stack optical port.

Table 6-211 Attributes of a QSFP+ stack optical port

Attribute	Description
Connector type	MPO
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ae
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 3-631.

Table 6-212 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

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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

Figure 6-86 Indicators on the S5720-50X-EI-AC

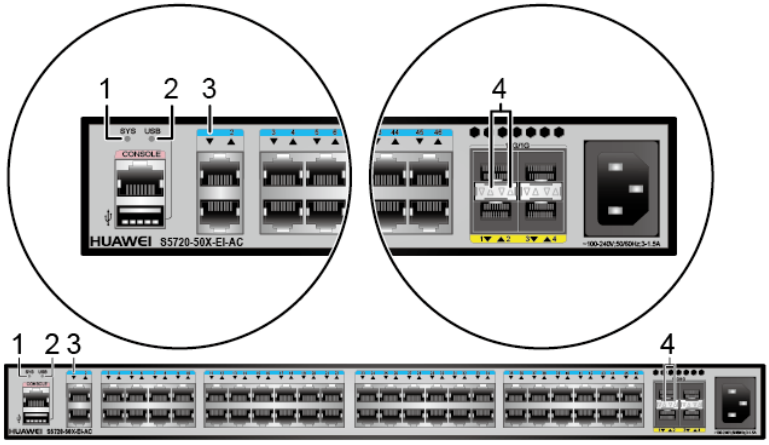


Table 6-213 Description of indicators on the switch

No.	Indicator/Button	Color	Description
1	SYS: system status indicator	-	Off: The system is not running.
		Green	• 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	USB-based deployment indicator	-	Off: • 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	• Steady on: A USB-based deployment has been completed. • Blinking: The system is reading data from the USB flash drive.
		Yellow	Steady on: The switch has copied all the required files and completed the file

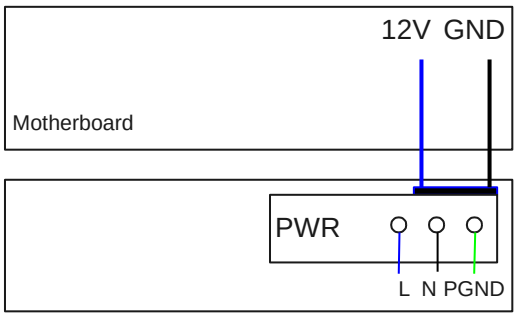
No.	Indicator/Button	Color	Description
			check. The USB flash drive can be removed from the switch.
		Red	Blinking: An error has occurred when the system is executing the configuration file or reading data from the USB flash drive.
3	Service port indicator (one indicator for each port)	-	Off: The port is not connected or has been shut down.
		Green	• Steady on: The port is connected. • Blinking: The port is sending or receiving data.
4	Service port indicator (two indicators for each port)	-	Off: The port is not connected or has been shut down.
		Green	Steady on: The port is connected.
		Yellow	Blinking: The port is sending or receiving data.

Step 5 Power Supply Configuration

The S5720-50X-EI-AC has a built-in power module and does not support pluggable power modules. It can connect to an RPS1800 power supply for power redundancy.

Figure 3-239 shows the power supply mode of a built-in AC power module. The built-in AC power module (PWR) receives power from an external power source and provides a 12 V output to the chassis.

Figure 6-87 Power supply mode of a built-in AC power module



L: live wire N: neutral wire PGND: protection ground GND: 12 V reference ground

Step 6 Heat Dissipation

The S5720-50X-EI-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.

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

Step 7 Technical Specifications

Table 3-633 lists technical specifications of the S5720-50X-EI-AC.

Table 6-214 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	74.31 years
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	±6 kV in differential mode, ±6 kV in common mode
Dimensions (W x D x H)	442.0 mm x 220.0 mm x 43.6 mm (17.4 in. x 8.7 in. x 1.72 in.)
Weight	≤ 8 kg (17.64 lb)
Stack ports	• Two fixed QSFP+ stack ports on the rear card
RPS	Supported
PoE	Not supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz
Maximum power consumption	55.3 W

Item	Description
(100% throughput, full speed of fans)	
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 49.3 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.21 S5720-50X-EI-DC

Step 1 Version Mapping

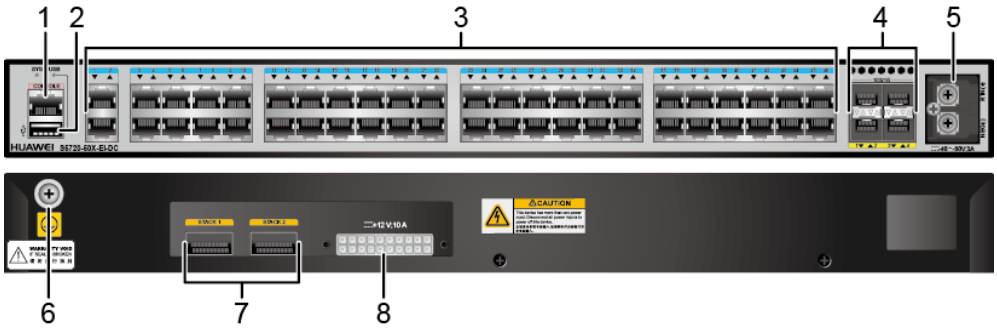
Table 3-634 lists the mapping between the S5720-50X-EI-DC chassis and software versions.

Table 6-215 Version mapping

Series		Model	Software Version
S5720-EI	S5720-X-EI	S5720-50X-EI-DC	V200R009C00 and later versions

Step 2 Appearance and Structure

Figure 6-88 S5720-50X-EI-DC appearance



1	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	2	One USB port
3	Forty-six 10/100/1000BASE-T ports	4	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables
5	DC power terminal **NOTE** It is used together with a DC Power Cable.	6	Ground screw **NOTE** It is used with a ground cable.
7	Two QSFP+ stack optical ports Applicable modules and cables: • QSFP+ optical module (only QSFP-40G-SR4 and QSFP-40G-iSR supported) • 1 m, 3 m, and 5 m QSFP+ high-speed copper cables • 10 m QSFP+ AOC cable (applicable	8	RPS socket **NOTE** It is used with an RPS cable, which is not hot swappable.

	in V200R009C00 and later versions)		

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-635 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-216 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

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 3-636 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-217 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

QSFP+ stack optical port

QSFP+ stack optical ports can only be used for stack connection. Table 3-637 describes the attributes of a QSFP+ stack optical port.

Table 6-218 Attributes of a QSFP+ stack optical port

Attribute	Description
Connector type	MPO
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ae
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 3-638.

Table 6-219 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

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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

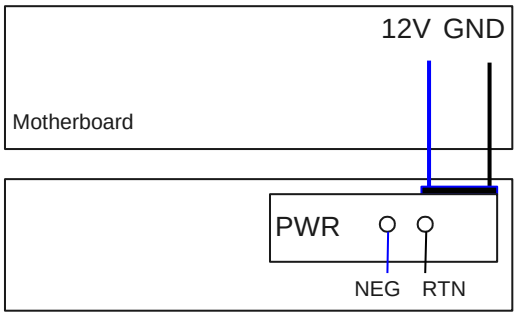
The S5720-50X-EI-DC have the same types of indicators as the S5720-50X-EI-AC. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-50X-EI-DC has a built-in power module and does not support pluggable power modules. It can connect to an RPS1800 power supply for power redundancy.

Figure 3-241 shows the power supply mode of a single DC power module. The built-in DC power module (PWR) receives DC power from an external power source and provides a 12 V output to the chassis.

Figure 6-89 Power supply by a single DC power module



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

Step 6 Heat Dissipation

The S5720-50X-EI-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.

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

Step 7 Technical Specifications

Table 3-639 lists technical specifications of the S5720-50X-EI-DC.

Table 6-220 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	74.31 years
Mean time to repair (MTTR)	2
Availability	> 0.99999

Item	Description
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	±1 kV in differential mode, ±2 kV in common mode
Dimensions (W x D x H)	442.0 mm x 220.0 mm x 43.6 mm (17.4 in. x 8.7 in. x 1.72 in.)
Weight	≤ 8 kg (17.64 lb)
Stack ports	• Two fixed QSFP+ stack ports on the rear card
RPS	Supported
PoE	Not supported
Rated voltage range	-48 V DC to -60 V DC
Maximum voltage range	-36 V DC to -72 V DC
Maximum power consumption (100% throughput, full speed of fans)	55.3 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 49.3 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.22 S5720-50X-EI-46S-AC

Step 1 Version Mapping

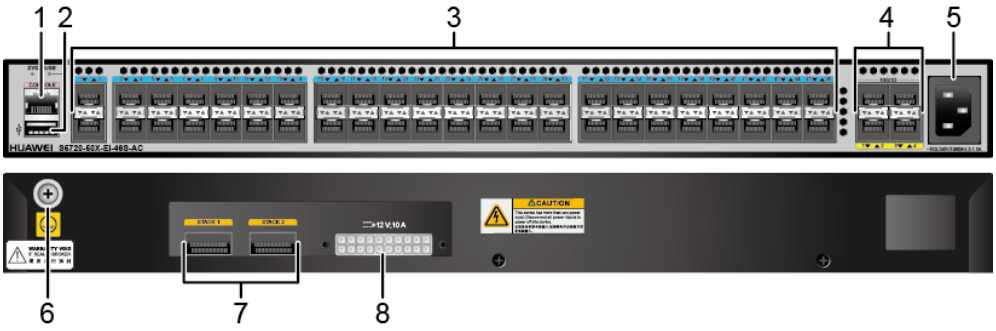
Table 3-640 lists the mapping between the S5720-50X-EI-46S-AC chassis and software versions.

Table 6-221 Version mapping

Series		Model	Software Version
S5720-EI	S5720-X-EI	S5720-50X-EI-46S-AC	V200R007C00 and later versions **NOTE** This model does not match V200R007C10.

Step 2 Appearance and Structure

Figure 6-90 S5720-50X-EI-46S-AC appearance



1	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	2	One USB port
3	Forty-six 100/1000BASE-X ports Applicable modules: • FE optical module • GE optical module • GE-CWDM optical module • GE copper module	4	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables
5	AC socket **NOTE**	6	Ground screw **NOTE**

	It is used with an AC power cable.		It is used with a ground cable.
7	Two QSFP+ stack optical ports Applicable modules and cables: • QSFP+ optical module (only QSFP-40G-SR4 and QSFP-40G-iSR supported) • 1 m, 3 m, and 5 m QSFP+ high-speed copper cables • 10 m QSFP+ AOC cable (applicable in V200R009C00 and later versions)	8	RPS socket **NOTE** It is used with an RPS cable, which is not hot swappable.

Step 3 Port Description

100/1000BASE-X port

A 100/1000BASE-X port can send and receive data at 100 Mbit/s or 1000 Mbit/s. Table 3-641 describes the attributes of a 100/1000BASE-X port.

Table 6-222 Attributes of a 100/1000BASE-X port

Attribute	Description
Connector type	LC/PC
Optical interface attributes	Depend on the optical module used
Standards compliance	IEEE802.3z
Working mode	100/1000 Mbit/s auto-sensing Full-duplex

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 3-642 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-223 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

Attribute	Description
	Full-duplex

QSFP+ stack optical port

QSFP+ stack optical ports can only be used for stack connection. Table 3-643 describes the attributes of a QSFP+ stack optical port.

Table 6-224 Attributes of a QSFP+ stack optical port

Attribute	Description
Connector type	MPO
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ae
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 3-644.

Table 6-225 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

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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

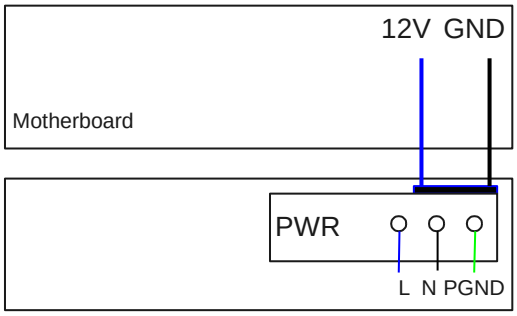
The S5720-50X-EI-46S-AC has 46 downlink optical port indicators, whereas the S5720-50X-EI-AC has 46 downlink electrical port indicators. Symbols and meanings of other indicators on the two switch models are the same. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-50X-EI-46S-AC has a built-in power module and does not support pluggable power modules. It can connect to an RPS1800 power supply for power redundancy.

Figure 3-243 shows the power supply mode of a built-in AC power module. The built-in AC power module (PWR) receives power from an external power source and provides a 12 V output to the chassis.

Figure 6-91 Power supply mode of a built-in AC power module



L: live wire N: neutral wire PGND: protection ground GND: 12 V reference ground

Step 6 Heat Dissipation

The S5720-50X-EI-46S-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.

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

Step 7 Technical Specifications

Table 3-645 lists technical specifications of the S5720-50X-EI-46S-AC.

Table 6-226 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	67.59 years
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	NA
Power supply surge protection	±6 kV in differential mode, ±6 kV in common mode
Dimensions (W x D x H)	442.0 mm x 220.0 mm x 43.6 mm (17.4 in. x 8.7 in. x 1.72 in.)
Weight	≤ 8 kg (17.64 lb)
Stack ports	• Two fixed QSFP+ stack ports on the rear card
RPS	Supported
PoE	Not supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz
Maximum power consumption (100% throughput, full speed of fans)	81.5 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 51.1 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification

Item	Description
	• Safety certification • Manufacturing certification

6.3.23 S5720-50X-EI-46S-DC

Step 1 Version Mapping

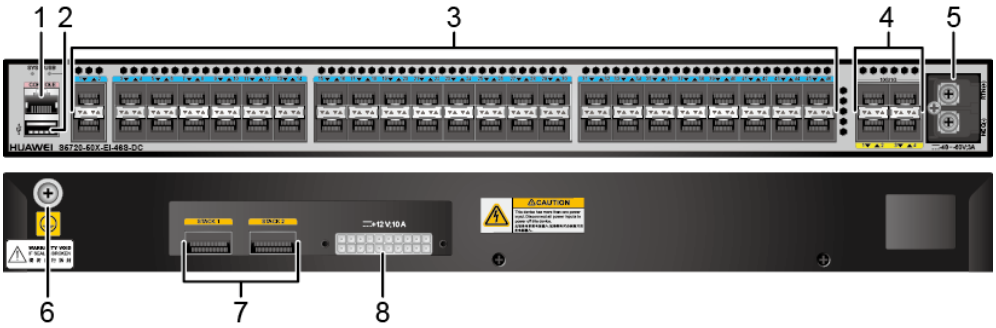
Table 3-646 lists the mapping between the S5720-50X-EI-46S-DC chassis and software versions.

Table 6-227 Version mapping

Series		Model	Software Version
S5720-EI	S5720-X-EI	S5720-50X-EI-46S-DC	V200R009C00 and later versions

Step 2 Appearance and Structure

Figure 6-92 S5720-50X-EI-46S-DC appearance



1	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	2	One USB port
3	Forty-six 100/1000BASE-X ports Applicable modules: • FE optical module • GE optical module • GE-CWDM optical module • GE copper module	4	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables
5	DC power terminal **NOTE** It is used together with a DC Power Cable.	6	Ground screw **NOTE** It is used with a ground cable.
7	Two QSFP+ stack optical ports Applicable modules and cables: • QSFP+ optical module (only QSFP-40G-SR4 and QSFP-40G-iSR supported) • 1 m, 3 m, and 5 m QSFP+ high-speed copper cables • 10 m QSFP+ AOC cable (applicable in V200R009C00 and later versions)	8	RPS socket **NOTE** It is used with an RPS cable, which is not hot swappable.

Step 3 Port Description

100/1000BASE-X port

A 100/1000BASE-X port can send and receive data at 100 Mbit/s or 1000 Mbit/s. Table 3-647 describes the attributes of a 100/1000BASE-X port.

Table 6-228 Attributes of a 100/1000BASE-X port

Attribute	Description
Connector type	LC/PC
Optical interface attributes	Depend on the optical module used
Standards compliance	IEEE802.3z
Working mode	100/1000 Mbit/s auto-sensing Full-duplex

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 3-648 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-229 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

QSFP+ stack optical port

QSFP+ stack optical ports can only be used for stack connection. Table 3-649 describes the attributes of a QSFP+ stack optical port.

Table 6-230 Attributes of a QSFP+ stack optical port

Attribute	Description
Connector type	MPO
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ae
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 3-650.

Table 6-231 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

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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

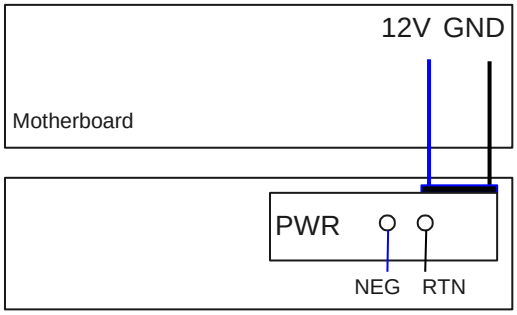
The S5720-50X-EI-46S-DC has 46 downlink optical port indicators, whereas the S5720-50X-EI-AC has 46 downlink electrical port indicators. Symbols and meanings of other indicators on the two switch models are the same. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-50X-EI-46S-DC has a built-in power module and does not support pluggable power modules. It can connect to an RPS1800 power supply for power redundancy.

Figure 3-245 shows the power supply mode of a single DC power module. The built-in DC power module (PWR) receives DC power from an external power source and provides a 12 V output to the chassis.

Figure 6-93 Power supply by a single DC power module



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

Step 6 Heat Dissipation

The S5720-50X-EI-46S-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.

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

Step 7 Technical Specifications

Table 3-651 lists technical specifications of the S5720-50X-EI-46S-DC.

Table 6-232 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	67.59 years
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	NA
Power supply surge protection	±1 kV in differential mode, ±2 kV in common mode
Dimensions (W x D x H)	442.0 mm x 220.0 mm x 43.6 mm (17.4 in. x 8.7 in. x 1.72 in.)
Weight	≤ 8 kg (17.64 lb)
Stack ports	• Two fixed QSFP+ stack ports on the rear card
RPS	Supported
PoE	Not supported
Rated voltage range	-48 V DC to -60 V DC
Maximum voltage range	-36 V DC to -72 V DC
Maximum power consumption (100% throughput, full speed of fans)	81.5 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)

Item	Description
Noise under normal temperature (27 ℃, sound power)	< 51.1 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-2000 m (0-6562 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.24 S5720-52X-EI-AC

Step 1 Version Mapping

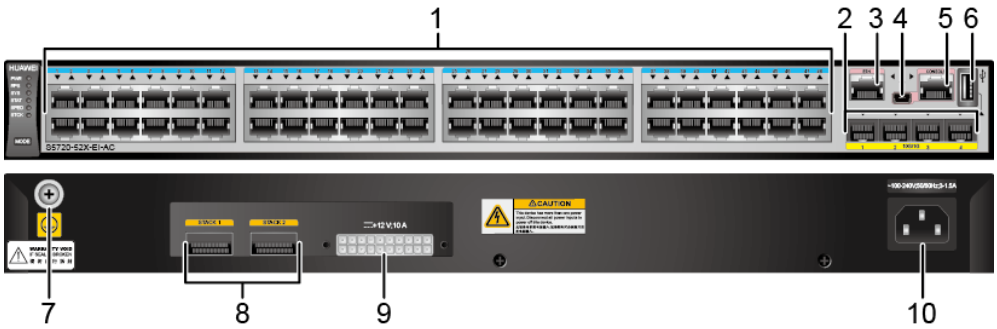
Table 3-652 lists the mapping between the S5720-52X-EI-AC chassis and software versions.

Table 6-233 Version mapping

Series		Model	Software Version
S5720-EI	S5720-X-EI	S5720-52X-EI-AC	V200R007C00 and later versions **NOTE** This model does not match V200R007C10.

Step 2 Appearance and Structure

Figure 6-94 S5720-52X-EI-AC appearance



1	Forty-eight 10/100/1000BASE-T ports	2	Four 10GE SFP+ ports Applicable modules and cables: • 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, and 10 m SFP+ high-speed copper cables • 5 m SFP+ high-speed copper cable (applicable in V200R009C00 and later versions) • 3 m and 10 m AOC cables
3	One ETH management port	4	One mini USB port
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	One USB port
7	Ground screw **NOTE** It is used with a ground cable.	8	Two QSFP+ stack optical ports Applicable modules and cables: • QSFP+ optical module (only QSFP-40G-SR4 and QSFP-40G-iSR supported) • 1 m, 3 m, and 5 m QSFP+ high-speed copper cables • 10 m QSFP+ AOC cable (applicable in V200R009C00 and later versions)
9	RPS socket **NOTE** It is used with an RPS cable, which is not hot swappable.	10	AC socket **NOTE** It is used with an AC power cable.

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-653 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-234 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards	IEEE802.3, IEEE802.3u, IEEE802.3ab

Attribute	Description
compliance	
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

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 3-654 describes the attributes of a 10GE SFP+ Ethernet optical port.

Table 6-235 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

QSFP+ stack optical port

QSFP+ stack optical ports can only be used for stack connection. Table 3-655 describes the attributes of a QSFP+ stack optical port.

Table 6-236 Attributes of a QSFP+ stack optical port

Attribute	Description
Connector type	MPO
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ae
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 3-656.

Table 6-237 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-657 describes the attributes of an ETH management port.

Table 6-238 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 of the S5720-EI does not support USB 1.1 and

can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

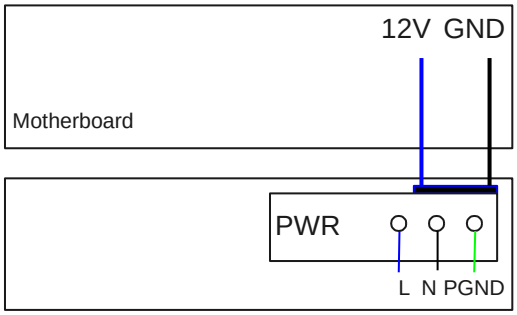
The S5720-52X-EI-AC have the same types of indicators as the S5720-32X-EI-AC. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-52X-EI-AC has a built-in power module and does not support pluggable power modules. It can connect to an RPS1800 power supply for power redundancy.

Figure 3-247 shows the power supply mode of a built-in AC power module. The built-in AC power module (PWR) receives power from an external power source and provides a 12 V output to the chassis.

Figure 6-95 Power supply mode of a built-in AC power module



L: live wire N: neutral wire PGND: protection ground GND: 12 V reference ground

Step 6 Heat Dissipation

The S5720-52X-EI-AC has built-in fans for forced air cooling. The airflow direction is left-to-right.

Step 7 Technical Specifications

Table 3-658 lists technical specifications of the S5720-52X-EI-AC.

Table 6-239 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	73.12 years
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	±6 kV in differential mode, ±6 kV in common mode
Dimensions (W x D x H)	442.0 mm x 220.0 mm x 43.6 mm (17.4 in. x 8.7 in. x 1.72 in.)
Weight	≤ 8 kg (17.64 lb)
Stack ports	• Two fixed QSFP+ stack ports on the rear card
RPS	Supported
PoE	Not supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz
Maximum power consumption (100% throughput, full speed of fans)	61.5 W
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 49.3 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification

Item	Description
	• Safety certification • Manufacturing certification

6.3.25 S5720-32P-EI-AC

Step 1 Version Mapping

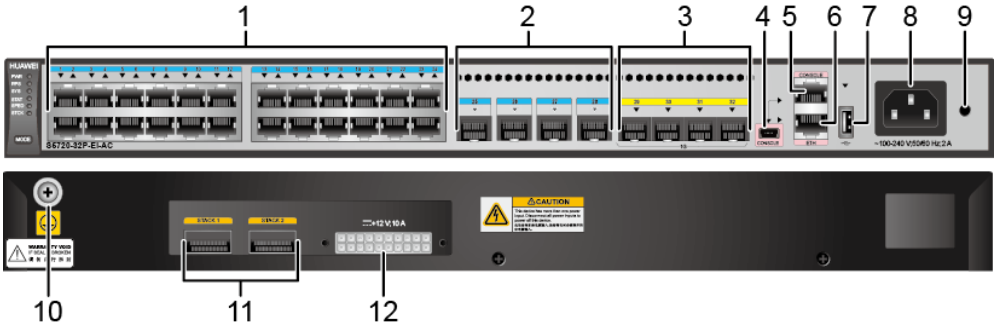
Table 3-659 lists the mapping between the S5720-32P-EI-AC chassis and software versions.

Table 6-240 Version mapping

Series		Model	Software Version
S5720-EI	S5720-P-EI	S5720-32P-EI-AC	V200R007C00 and later versions **NOTE** This model does not match V200R007C10.

Step 2 Appearance and Structure

Figure 6-96 S5720-32P-EI-AC appearance



1	Twenty-four 10/100/1000BASE-T ports	2	Four 100/1000BASE-X ports Applicable modules: • FE optical module • GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module
3	Four 1000BASE-X ports Applicable modules:	4	One mini USB port

	• GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module (only 1000 Mbit/s supported)		
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	One ETH management port
7	One USB port	8	AC socket **NOTE** It is used with an AC power cable.
9	Jack for AC terminal locking latch **NOTE** The AC terminal locking latch is not delivered with the switch.	10	Ground screw **NOTE** It is used with a ground cable.
11	Two QSFP+ stack optical ports Applicable modules and cables: • QSFP+ optical module (only QSFP-40G-SR4 and QSFP-40G-iSR supported) • 1 m, 3 m, and 5 m QSFP+ high-speed copper cables • 10 m QSFP+ AOC cable (applicable in V200R009C00 and later versions)	12	RPS socket **NOTE** It is used with an RPS cable, which is not hot swappable.

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-660 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-241 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission	100 m

Attribute	Description
distance	

100/1000BASE-X port

A 100/1000BASE-X port can send and receive data at 100 Mbit/s or 1000 Mbit/s. Table 3-661 describes the attributes of a 100/1000BASE-X port.

Table 6-242 Attributes of a 100/1000BASE-X port

Attribute	Description
Connector type	LC/PC
Optical interface attributes	Depend on the optical module used
Standards compliance	IEEE802.3z
Working mode	100/1000 Mbit/s auto-sensing Full-duplex

1000BASE-X port

A 1000BASE-X Ethernet optical port sends and receives service data at 1000 Mbit/s. Table 3-662 describes the attributes of a 1000BASE-X Ethernet optical port.

Table 6-243 Attributes of a 1000BASE-X Ethernet optical port

Attribute	Description
Connector type	LC/PC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3z
Working mode	1000 Mbit/s Full-duplex

QSFP+ stack optical port

QSFP+ stack optical ports can only be used for stack connection. Table 3-663 describes the attributes of a QSFP+ stack optical port.

Table 6-244 Attributes of a QSFP+ stack optical port

Attribute	Description
Connector type	MPO
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3ae
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 3-664.

Table 6-245 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-665 describes the attributes of an ETH management port.

Table 6-246 Attributes of an ETH management port

Attribute	Description
Connector type	RJ45

Attribute	Description
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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

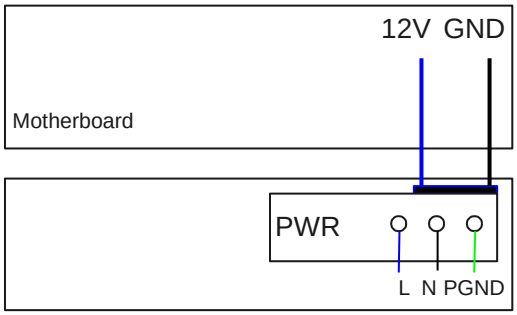
The S5720-32P-EI-AC have the same types of indicators as the S5720-32X-EI-AC. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-32P-EI-AC has a built-in power module and does not support pluggable power modules. It can connect to an RPS1800 power supply for power redundancy.

Figure 3-249 shows the power supply mode of a built-in AC power module. The built-in AC power module (PWR) receives power from an external power source and provides a 12 V output to the chassis.

Figure 6-97 Power supply mode of a built-in AC power module



L: live wire N: neutral wire PGND: protection ground GND: 12 V reference ground

Step 6 Heat Dissipation

The S5720-32P-EI-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 3-666 lists technical specifications of the S5720-32P-EI-AC.

Table 6-247 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	80.32 years
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	±6 kV in differential mode, ±6 kV in common mode
Dimensions (W x D x H)	442.0 mm x 220.0 mm x 43.6 mm (17.4 in. x 8.7 in. x 1.72 in.)
Weight	≤ 8 kg (17.64 lb)
Stack ports	• Two fixed QSFP+ stack ports on the rear card
RPS	Supported
PoE	Not supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz
Maximum power consumption (100% throughput, full speed of fans)	50.7 W

Item	Description
Operating temperature	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) 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 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 49.3 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

6.3.26 S5720-52P-EI-AC

Step 1 Version Mapping

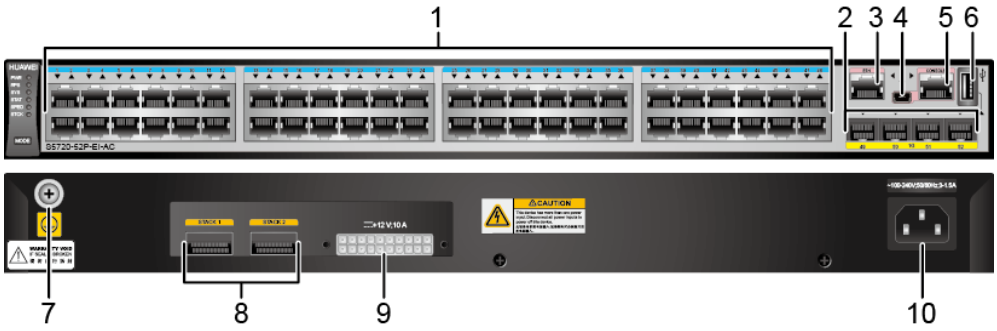
Table 3-667 lists the mapping between the S5720-52P-EI-AC chassis and software versions.

Table 6-248 Version mapping

Series		Model	Software Version
S5720-EI	S5720-P-EI	S5720-52P-EI-AC	V200R007C00 and later versions **NOTE** This model does not match V200R007C10.

Step 2 Appearance and Structure

Figure 6-98 S5720-52P-EI-AC appearance



1	Forty-eight 10/100/1000BASE-T ports	2	Four 1000BASE-X ports Applicable modules: • GE optical module • GE-CWDM optical module • GE-DWDM optical module • GE copper module (only 1000 Mbit/s supported)
3	One ETH management port	4	One mini USB port
5	One console port **NOTE** It is used with a console cable. The console cable is not delivered with the switch and needs to be separately purchased if needed.	6	One USB port
7	Ground screw **NOTE** It is used with a ground cable.	8	Two QSFP+ stack optical ports Applicable modules and cables: • QSFP+ optical module (only QSFP-40G-SR4 and QSFP-40G-iSR supported) • 1 m, 3 m, and 5 m QSFP+ high-speed copper cables • 10 m QSFP+ AOC cable (applicable in V200R009C00 and later versions)
9	RPS socket **NOTE** It is used with an RPS cable, which is not hot swappable.	10	AC socket **NOTE** It is used with an AC power cable.

Step 3 Port Description

10/100/1000BASE-T port

A 10/100/1000BASE-T Ethernet electrical port sends and receives service data at 10/100/1000 Mbit/s, and must use network cables. Table 3-668 describes the attributes of a 10/100/1000BASE-T Ethernet electrical port.

Table 6-249 Attributes of a 10/100/1000BASE-T Ethernet electrical port

Attribute	Description
Connector type	RJ45
Standards compliance	IEEE802.3, IEEE802.3u, IEEE802.3ab
Working mode	10/100/1000 Mbit/s auto-sensing Full-duplex
Maximum transmission distance	100 m

1000BASE-X port

A 1000BASE-X Ethernet optical port sends and receives service data at 1000 Mbit/s. Table 3-669 describes the attributes of a 1000BASE-X Ethernet optical port.

Table 6-250 Attributes of a 1000BASE-X Ethernet optical port

Attribute	Description
Connector type	LC/PC
Optical port attributes	Depend on the optical module used
Standards compliance	IEEE802.3z
Working mode	1000 Mbit/s Full-duplex

QSFP+ stack optical port

QSFP+ stack optical ports can only be used for stack connection. Table 3-670 describes the attributes of a QSFP+ stack optical port.

Table 6-251 Attributes of a QSFP+ stack optical port

Attribute	Description
Connector type	MPO
Optical port attributes	Depend on the optical module used

Attribute	Description
Standards compliance	IEEE802.3ae
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 3-671.

Table 6-252 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

Mini USB port

The mini USB port is connected to a console for on-site configuration. When both the Mini USB and console port have a cable connected, only the Mini USB port works.

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 3-672 describes the attributes of an ETH management port.

Table 6-253 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

Attribute	Description
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 of the S5720-EI does not support USB 1.1 and can only connect to a USB flash drive that complies with USB 2.0 and supports the Linux operating system.

Step 4 Indicator Description

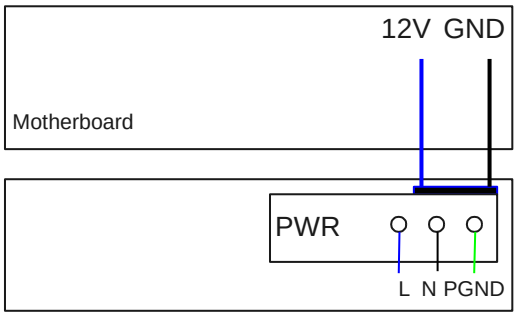
The S5720-52P-EI-AC have the same types of indicators as the S5720-32X-EI-AC. For details, see Indicator Description.

Step 5 Power Supply Configuration

The S5720-52P-EI-AC has a built-in power module and does not support pluggable power modules. It can connect to an RPS1800 power supply for power redundancy.

Figure 3-251 shows the power supply mode of a built-in AC power module. The built-in AC power module (PWR) receives power from an external power source and provides a 12 V output to the chassis.

Figure 6-99 Power supply mode of a built-in AC power module



L: live wire N: neutral wire PGND: protection ground GND: 12 V reference ground

Step 6 Heat Dissipation

The S5720-52P-EI-AC has built-in fans for forced air cooling. The airflow direction is left-to-right.

Step 7 Technical Specifications

Table 3-673 lists technical specifications of the S5720-52P-EI-AC.

Table 6-254 Technical specifications

Item	Description
Memory (RAM)	2 GB
Flash	340 MB
Mean time between failures (MTBF)	73.12 years
Mean time to repair (MTTR)	2 hours
Availability	> 0.99999
Service port surge protection	Common mode: ±6 kV
Power supply surge protection	±6 kV in differential mode, ±6 kV in common mode
Dimensions (W x D x H)	442.0 mm x 220.0 mm x 43.6 mm (17.4 in. x 8.7 in. x 1.72 in.)
Weight	≤ 8 kg (17.64 lb)
Stack ports	• Two fixed QSFP+ stack ports on the rear card
RPS	Supported
PoE	Not supported
Rated voltage range	100 V AC to 240 V AC, 50/60 Hz
Maximum voltage range	90 V AC to 264 V AC, 47 Hz to 63 Hz
Maximum power consumption (100% throughput, full speed of fans)	60.3 W
Operating	0 ℃ to 45 ℃ (32 ℉ to 113 ℉) at an altitude of 0-1800 m (0-5096 ft.)

Item	Description
temperature	**NOTE** When the altitude is 1800-5000 m (5096-16404 ft.), the highest operating temperature reduces by 1 ℃ (1.8 ℉) every time the altitude increases by 220 m (722 ft.).
Storage temperature	-40 ℃ to +70 ℃ (-40 ℉ to +158 ℉)
Noise under normal temperature (27 ℃, sound power)	< 49.3 dBA
Relative humidity	5% to 95%, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Certification	• EMC certification • Safety certification • Manufacturing certification

7 Safety and Regulatory Compliance

Table 7-1 lists the safety and regulatory compliance of S5700-EI.

Table 7-1 S5700-EI safety and regulatory compliance

Certification Category	Description
Safety	• 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)	• 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	• 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 S5700-EI.

Table 8-1 S5700-EI MIBs

Category	MIB
Public MIB	• BRIDGE-MIB • DISMAN-NSLOOKUP-MIB • DISMAN-PING-MIB • DISMAN-TRACEROUTE-MIB • ENTITY-MIB • EtherLike-MIB • IF-MIB • IP-FORWARD-MIB • IPv6-MIB

Category	MIB
	• LAG-MIB • LLDP-EXT-DOT1-MIB • LLDP-EXT-DOT3-MIB • LLDP-MIB • MPLS-FTN-STD-MIB • MPLS-L3VPN-STD-MIB • MPLS-LDP-GENERIC-STD-MIB • MPLS-LDP-STD-MIB • MPLS-LSR-STD-MIB • MPLS-TE-STD-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

Category	MIB
Huawei-proprietary MIB	• 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 • 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

Category	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 • 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 S5700-EI complies with.

Table 8-2 S5700-EI standards compliance

Standard Organization	Standard or Protocol
IETF	• 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) • 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

Standard Organization	Standard or Protocol
	• RFC 4271 A Border Gateway Protocol 4 (BGP-4) • RFC 4760 Multiprotocol Extensions for BGP-4 • draft-grant-tacacs-02 TACACS+
IEEE	• 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	• ITU SG13 Y.17ethoam • ITU SG13 QoS control Ethernet-Based IP Access • ITU-T Y.1731 ETH OAM performance monitor
ISO	• ISO 10589 IS-IS Routing Protocol
MEF	• 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

Standard Organization	Standard or Protocol
	• 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://e.huawei.com or contact your local Huawei sales office.

9 Ordering Information

Table 9-1 Ordering list of S5700-EI series Ethernet switches

Product Description
S5700-28C-EI-24S(24xGig SFP, 4 of which are dual-purpose 10/100/1000 or SFP, with 1 interface slot)
S5700-28C-EI(24xEthernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP, with 1 interface slot)
S5710-28C-EI(24xEthernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP,4x10 Gig SFP+, without power module)
S5700-28C-PWR-EI(24xEthernet 10/100/1000 PoE+ ports, with 1 interface slot)
S5700-52C-EI(48xEthernet 10/100/1000 ports, with 1 interface slot)
S5700-52C-PWR-EI(48xEthernet 10/100/1000 PoE+ ports, with 1 interface slot)
S5710-52C-PWR-EI-AC(48xEthernet 10/100/1000 PoE+ ports, 4x10 Gig SFP+, with 2 interface slots, with 580W AC power supply)
S5710-52C-PWR-EI(48xEthernet 10/100/1000 PoE+ ports, 4x10 Gig SFP+, with 2 interface slots, without

Product Description
power module)
S5720-32P-EI-AC(24 Ethernet 10/100/1000 ports,8 Gig SFP,AC 110/220V,front access)
S5720-32X-EI-AC(24 Ethernet 10/100/1000 ports,4 Gig SFP,4 10 Gig SFP+,AC 110/220V,front access)
S5720-32X-EI-DC(24 Ethernet 10/100/1000 ports,4 Gig SFP,4 10 Gig SFP+,DC,front access)
S5720-32X-EI-24S-AC(24 Gig SFP,4 Ethernet 10/100/1000 ports,4 10 Gig SFP+,AC 110/220V,front access)
S5720-32X-EI-24S-DC(24 Gig SFP,4 Ethernet 10/100/1000 ports,4 10 Gig SFP+,DC,front access)
S5720-36C-EI-AC(28 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP,4 10 Gig SFP+, 1 interface slot, with 150W AC)
S5720-36C-EI-DC(28 Ethernet 10/100/1000 ports,4 of which ar e dual-purpose 10/100/1000 or SFP,4 10 Gig SFP+, 1 interface slot, with 150W DC)
S5720-36C-PWR-EI-AC(28 Ethernet 10/100/1000 PoE+ ports,4 of which are dual-purpose 10/100/1000 or SFP,4 10 Gig SFP+,with 500W AC power)
S5720-36C-PWR-EI-DC(28 Ethernet 10/100/1000 PoE+ ports,4 of which are dual-purpose 10/100/1000 or SFP,4 10 Gig SFP+, with 650W DC power)
S5720-36PC-EI-AC(28 Ethernet 10/100/1000 ports,4 of which are dual-purpose 10/100/1000 or SFP,4 Gig SFP, 1 interface slot, with 150W AC)
S5720-36C-EI-28S-AC(28 Gig SFP,4 of which are dual-purpose 10/100/1000 or SFP,4 10 Gig SFP+,with 1 interface slot,with 150W AC power supply)
SS5720-36C-EI-28S-DC(28 Gig SFP,4 of which are dual-purpose 10/100/1000 or SFP,4 10 Gig SFP+,with 1 interface slot, with 150W DC power supply)
S5720-50X-EI-AC(46 Ethernet 10/100/1000 ports,4 10 Gig SFP+,AC 110/220V,front access)
S5720-50X-EI-DC(46 Ethernet 10/100/1000 ports,4 10 Gig SFP+,DC,front access)
S5720-50X-EI-46S-AC(46 Gig SFP,4 10 Gig SFP+,AC 110/220V,front access)
S5720-50X-EI-46S-DC(46 Gig SFP,4 10 Gig SFP+,DC,front access)
S5720-52X-EI-AC(48 Ethernet 10/100/1000 ports,4 10 Gig SFP+,AC 110/220V)
S5720-52P-EI-AC(48 Ethernet 10/100/1000 ports,4 Gig SFP,AC 110/220V)
S5720-56C-EI-48S-AC(48 Gig SFP,4 10 Gig SFP+,with 1 interface slot,with 150W AC power supply)
S5720-56C-EI-48S-DC(48 Gig SFP,4 10 Gig SFP+,with 1 interface slot,with 150W DC power supply)
S5720-56C-EI-AC(48 Ethernet 10/100/1000 ports,4 10 Gig SFP+,with 1 interface slot,with 150W AC power supply)
S5720-56C-EI-DC(48 Ethernet 10/100/1000 ports,4 10 Gig SFP+,with 1 interface slot,with 150W DC power supply)

Product Description
S5720-56PC-EI-AC(48 Ethernet 10/100/1000 ports,4 Gig SFP,with 1 interface slot,with 150W AC power supply)
S5720-56C-PWR-EI-AC(48 Ethernet 10/100/1000 PoE+ ports,4 10 Gig SFP+,with 1 interface slot,with 500W AC power supply)
S5720-56C-PWR-EI-DC(48 Ethernet 10/100/1000 PoE+ ports,4 10 Gig SFP+,with 1 interface slot,with 650W DC power supply)
S5720-56C-PWR-EI-AC1(48 Ethernet 10/100/1000 PoE+ ports,4 10 Gig SFP+,with 1 interface slot,with 1150W AC power supply)
2 10 Gig SFP+ Interface Card(used in S5720EI series)
2 10 Gig RJ45 Interface Card(used in S5720EI series)
Dedicated stack card with 2*QSFP+ interface(Including one PCS of 1M QSFP+ cable ,Used in S5720EI series)
RPS1800 redundant power supply
S5720-EI Fan box(F,FAN panel side intake)
150 W AC power module
150 W DC power module
500 W AC PoE power module
650 W DC PoE power module
1150 W AC power module

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