

S5720-SI Series Next-generation Standard Gigabit Ethernet Switch





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Product Overview

The S5720-SI series switches (S5720-SI for short) are next-generation standard gigabit Layer 3 Ethernet switches based on new generation of high-performance hardware and Huawei Versatile Routing Platform (VRP). It provides a large switching capacity, high-density GE interfaces, and 10GE uplink interfaces. With extensive service features and IPv6 forwarding capabilities, the S5720-SI is applicable to various scenarios. For example, it can be used as an access or aggregation switch on campus networks or an access switch in data centers. The S5720-SI integrates many advanced technologies in terms of reliability, security, and energy saving. It employs simple and convenient means of installation and maintenance to reduce customers' O&M costs and help enterprise customers build a next-generation IT network.

Product Appearance

S5720-28P-SI-AC



- 24 Ethernet 10/100/1000 ports, 4 of which are dual-purpose 10/100/1000 or SFP
- 4 Gig SFP
- Double hot swappable AC/DC power supplies, one AC power module is configured by default
- Forwarding performance: 42 Mpps
- Switching capacity: 336Gbps

S5720-28X-SI-AC S5720-28X-SI-DC



- 24 Ethernet 10/100/1000 ports, 4 of which are dual-purpose 10/100/1000 or SFP
- 4 10 Gig SFP+
- Double hot swappable AC/DC power supplies, one AC/DC power module is configured by default
- Forwarding performance: 96 Mpps
- Switching capacity: 336Gbps

S5720-52P-SI-AC



- 48 Ethernet 10/100/1000 ports
- 4 Gig SFP
- Double hot swappable AC/DC power supplies, one AC power module is configured by default
- Forwarding performance: 78 Mpps
- Switching capacity: 336Gbps

S5720-52X-SI-AC S5720-52X-SI-DC



- 48 Ethernet 10/100/1000 ports
- 4 10 Gig SFP+
- Double hot swappable AC/DC power supplies, one AC/DC power module is configured by default
- Forwarding performance: 132 Mpps
- Switching capacity: 336Gbps

S5720-28X-PWR-SI-AC
S5720-28X-PWR-SI-DC



- 24 Ethernet 10/100/1000 PoE+ ports, 4 of which are dual-purpose 10/100/1000 or SFP
- 4 10 Gig SFP+
- PoE+
- Double hot swappable AC/DC power supplies, one 500W AC or 650W DC power module is configured by default
- Forwarding performance: 96 Mpps
- Switching capacity: 336Gbps

S5720-52X-PWR-SI-AC
S5720-52X-PWR-SI-DC



- 48 Ethernet 10/100/1000 PoE+ ports
- 4 10 Gig SFP+
- PoE+
- Double hot swappable AC/DC power supplies, one 500W AC or 650W DC power module is configured by default
- Forwarding performance: 132 Mpps
- Switching capacity: 336Gbps

S5720-52X-PWR-SI-ACF



- 48 Ethernet 10/100/1000 PoE+ ports
- 4 10 Gig SFP+
- Double hot swappable AC power supplies, one 1150W AC power module is configured by default
- Forwarding performance: 132 Mpps
- Switching capacity: 336Gbps

S5720S-28P-SI-AC



- 24 Ethernet 10/100/1000 ports
- 4 Gig SFP
- AC power supply, supporting RPS
- Forwarding performance: 42 Mpps
- Switching capacity: 336Gbps

S5720S-28X-SI-AC
S5720S-28X-SI-DC



- 24 Ethernet 10/100/1000 ports
- 4 10 Gig SFP+
- AC/DC power supply, supporting RPS
- Forwarding performance: 96 Mpps
- Switching capacity: 336Gbps

S5720S-52P-SI-AC



- 48 Ethernet 10/100/1000 ports
- 4 Gig SFP
- AC power supply, supporting RPS
- Forwarding performance: 78 Mpps
- Switching capacity: 336Gbps

S5720S-52X-SI-AC
S5720S-52X-SI-DC



- 48 Ethernet 10/100/1000 ports
- 4 10 Gig SFP+
- AC/DC power supply, supporting RPS
- Forwarding performance: 132 Mpps
- Switching capacity: 336Gbps

Product Features and highlights

Powerful support for services

- The S5720-SI offers higher performance and delivers a switching capacity of up to 336 Gbps. It provides more powerful Layer 3 routing capability such as OSPF/OSPFv3, BGP/BGP4+, ISIS/ISISv6, and provides voice, video and data services, helping enterprises build an integrated full service network with high availability and low latency.
- The S5720-SI supports many Layer 2/Layer 3 multicast protocols such as PIM SM, PIM DM, PIM SSM, MLD, and IGMP snooping, to support multi-terminal high-definition video surveillance and video conferencing services. It supports IGMP v1/v2/v3 snooping, IGMP filter, IGMP fast leave, and IGMP proxy. It also supports wire-speed replication of multicast packets between VLANs, multicast load balancing among member interfaces of a trunk, and controllable multicast, meeting requirements for IPTV and other multicast services.

Comprehensive reliability mechanisms

- Besides STP, RSTP, and MSTP, the S5720-SI 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 multi-instance to implement load balancing among links, optimizing bandwidth usage.
- The S5720-SI 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, ensuring non-stop transmission of services. SEP features simplicity, high reliability, fast switchover, easy maintenance, and flexible topology, facilitating network planning and management.
- The S5720-SI 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.

Well-designed QoS policies and security mechanisms

- The S5720-SI 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 S5720-SI 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 S5720-SI 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 S5720-SI 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 S5720-SI 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 S5720-SI 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 S5720-SI supports centralized MAC address authentication, 802.1x authentication, and NAC. It 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 S5720-SI 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.

Easy deployment and maintenance free

- The S5720-SI 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-SI functions as a client switch.
- The S5720-SI supports Zero Touch Provisioning (ZTP), topology planning-based deployment, automatic topology discovery and collection, intelligent error correction and plug-and-play, deployment using a USB flash drive, and batch remote upgrade. These capabilities simplify device management and maintenance and reduce maintenance costs. The S5720-SI supports SNMP v1/v2c/v3 and provides flexible methods for managing devices. Users can manage the S5720-SI using the CLI and Web NMS. The NQA function helps users with network planning and upgrading. In addition, the S5720-SI supports NTP, SSH v2, HWTACACS+, RMON, log hosts, and port-based traffic statistics.
- The S5720-SI supports 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 S5720-SI 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.
- The S5720-SI 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 S5720-SI 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.

PoE function

- The S5720-SI 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 S5720-SI 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 S5720-SI PWR provides improved PoE solutions. Users can configure whether and when a PoE port supplies power.

High scalability

- The S5720-SI supports intelligent stacking (iStack). Multiple S5720-SI can be connected with stack cables to set up a stack, which functions as a virtual switch. After a stack is set up, up to 9 physical switches

can be virtualized into one logical device. 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 S5720-SI supports IPv4/IPv6 dual stack and can migrate from an IPv4 network to an IPv6 network. S5720-SI 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 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.

Product Specifications

Item	S5720-28P-SI-AC S5720-28X-SI-AC (DC) S5720-28X-PWR-SI-AC (DC)	S5720-52P-SI-AC S5720-52X-SI-AC (DC) S5720-52X-PWR-SI-AC (DC) S5720-52X-PWR-SI-ACF	S5720S-28P-SI-AC S5720S-28X-SI-AC (DC)	S5720S-52P-SI-AC S5720S-52X-SI-AC (DC)
Fixed port	24 Ethernet 10/100/1000 ports, 4 of which are dual-purpose 10/100/1000 or SFP P series: 4 Gig SFP X series: 4 10 Gig SFP+	48 Ethernet 10/100/1000 ports P series: 4 Gig SFP X series: 4 10 Gig SFP+	24 Ethernet 10/100/1000 ports P series: 4 Gig SFP X series: 4 10 Gig SFP+	48 Ethernet 10/100/1000 ports P series: 4 Gig SFP X series: 4 10 Gig SFP+
Extended slot	NA			
MAC address table	IEEE 802.1d compliance 16 K MAC address entries MAC address learning and aging Static, dynamic, and black hole MAC address entries Packet filtering based on source MAC addresses			
VLAN	4K VLANs Guest VLAN and voice VLAN GVRP MUX VLAN VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports 1:1 and N:1 VLAN Mapping			
Jumbo frame	10K			
Ring protection	RRPP ring topology and RRPP multi-instance Smart Link tree topology and Smart Link multi-instance, providing the millisecond-level protection switchover SEP ERPS(G.8032) STP(IEEE 802.1d), RSTP(IEEE 802.1w), and MSTP(IEEE 802.1s) BPDU protection, root protection, and loop protection			

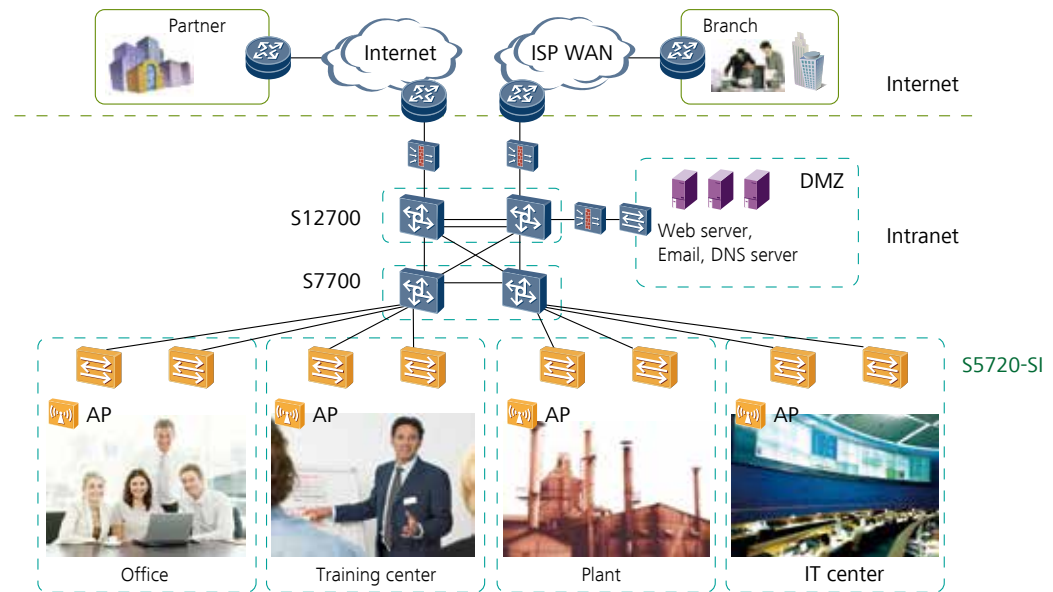
Item	S5720-28P-SI-AC S5720-28X-SI-AC (DC) S5720-28X-PWR-SI-AC (DC)	S5720-52P-SI-AC S5720-52X-SI-AC (DC) S5720-52X-PWR-SI-AC (DC) S5720-52X-PWR-SI-ACF	S5720S-28P-SI-AC S5720S-28X-SI-AC (DC)	S5720S-52P-SI-AC S5720S-52X-SI-AC (DC)
IP routing	Static route, RIPv1, RIPv2, RIPng, ECMP, OSPF, OSPFv3, BGP, BGP4+, ISIS, ISISv6, VRRP, VRRP6			
IPv6 features	Neighbor Discovery (ND) Path MTU (PMTU) IPv6 ping, IPv6 tracet, and IPv6 Telnet ACLs based on the source IPv6 address, destination IPv6 address, Layer 4 ports, or protocol type MLD v1/v2 snooping 6to4 tunnel, ISATAP tunnel, and manually configured tunnel			
Multicast	PIM DM, PIM SM, PIM SSM IGMP v1/v2/v3 snooping and IGMP fast leave Multicast forwarding in a VLAN and multicast replication between VLANs Multicast load balancing among member ports of a trunk Controllable multicast Port-based multicast traffic statistics			
QoS/ACL	Rate limiting on packets sent and received by an interface Packet redirection Port-based traffic policing and two-rate three-color CAR Eight queues on each port WRR, DRR, SP, WRR+SP, and DRR+SP queue scheduling algorithms Re-marking of the 802.1p priority and DSCP priority Packet filtering at Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, TCP/UDP port number, protocol type, and VLAN ID Rate limiting in each queue and traffic shaping on ports			
Security	User privilege management and password protection DoS attack defense, ARP attack defense, and ICMP attack defense Binding of the IP address, MAC address, interface, and VLAN Port isolation, port security, and sticky MAC Blackhole MAC address entries MAC Forced Forwarding (MFF) Limit on the number of learned MAC addresses 802.1x authentication and limit on the number of users on an interface AAA authentication, RADIUS authentication, HWTACACS+ authentication, and NAC SSH v2.0 Hypertext Transfer Protocol Secure (HTTPS) CPU defense Blacklist and whitelist 802.1x authentication, MAC address authentication, and combined authentication on a per port basis Portal authentication on a per VLANIF interface basis MACSec(hardware ready)			
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			

Item	S5720-28P-SI-AC S5720-28X-SI-AC (DC) S5720-28X-PWR-SI-AC (DC)	S5720-52P-SI-AC S5720-52X-SI-AC (DC) S5720-52X-PWR-SI-AC (DC) S5720-52X-PWR-SI-ACF	S5720S-28P-SI-AC S5720S-28X-SI-AC (DC)	S5720S-52P-SI-AC S5720S-52X-SI-AC (DC)
OAM	Software OAM: EFM OAM CFM OAM Y.1731 performance test			
Management and maintenance	iStack Virtual cable test SNMP v1/v2c/v3 RMON Web-based NMS System logs and alarms of different levels sFlow LLDP/LLDP-MED			
Interoperability	Supports VBST (Compatible with PVST/PVST+/RPVST) Supports LNP (Similar to DTP) Supports VCMP (Similar to VTP)			
Operating environment	Operating temperature: 0-1800 m altitude: 0-45°C 1800-5000 m altitude: The operating temperature reduces by 1°C every time the altitude increases by 220 m. Relative humidity: 5% to 95% (non-condensing)			
Input voltage	AC: Rated voltage range: 100 V to 240 V AC, 50/60 Hz Maximum voltage range: 90 V to 264 V AC, 50/60 Hz DC: Rated voltage range: -48 V to -60 V, DC Maximum voltage range: -36 V to -72 V, DC			
Dimensions (W x D x H, mm)	442 × 420 × 43.6	S5720-52X-PWR-SI-ACF: 442 × 507 × 43.6 Others: 442 × 420 × 43.6	442 × 220 × 43.6	442 × 220 × 43.6
Typical power consumption	S5720-28P-SI-AC: 21.2W S5720-28X-SI-AC(DC): 22.3W S5720-28X-PWR-SI-AC(DC): without PD: 31.8W; with PD: <913W(PoE:740W)	S5720-52P-SI-AC: 32.2W S5720-52X-SI-AC(DC): 33.8W S5720-52X-PWR-SI-AC(DC): without PD: 51W; with PD: <943.2W (PoE:740W) S5720-52X-PWR-SI-ACF: without PD: 57W; with PD: <1631.5W (PoE:1440W)	S5720S-28P-SI-AC: 20.2W S5720S-28X-SI-AC(DC): 22W	S5720S-52P-SI-AC: 33W S5720S-52X-SI-AC(DC): 34.4W

Applications

On Large-sized Enterprise Networks

The S5720-SI can function as an access device on a large-sized or medium-sized enterprise network or an aggregation device on a small-sized campus network. It supports link aggregation and dual-homing to improve network reliability.



Product List

Models	Product Description
S5720-28P-SI-AC	S5720-28P-SI bundle (24 Ethernet 10/100/1000 ports, 4 of which are dual-purpose 10/100/1000 or SFP, 4 Gig SFP, with 150W AC power supply)
S5720-28X-SI-AC	S5720-28X-SI bundle (24 Ethernet 10/100/1000 ports, 4 of which are dual-purpose 10/100/1000 or SFP, 4 10 Gig SFP+, with 150W AC power supply)
S5720-28X-SI-DC	S5720-28X-SI bundle (24 Ethernet 10/100/1000 ports, 4 of which are dual-purpose 10/100/1000 or SFP, 4 10 Gig SFP+, with 150W DC power supply)
S5720-52P-SI-AC	S5720-52P-SI bundle (48 Ethernet 10/100/1000 ports, 4 Gig SFP, with 150W AC power supply)
S5720-52X-SI-AC	S5720-52X-SI bundle (48 Ethernet 10/100/1000 ports, 4 10 Gig SFP+, with 150W AC power supply)
S5720-52X-SI-DC	S5720-52X-SI bundle (48 Ethernet 10/100/1000 ports, 4 10 Gig SFP+, with 150W DC power supply)
S5720-28X-PWR-SI-AC	S5720-28X-PWR-SI bundle (24 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)

Models	Product Description
S5720-28X-PWR-SI-DC	S5720-28X-PWR-SI bundle (24 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)
S5720-52X-PWR-SI-AC	S5720-52X-PWR-SI bundle (48 Ethernet 10/100/1000 PoE+ ports, 4 10 Gig SFP+, with 500W AC power)
S5720-52X-PWR-SI-DC	S5720-52X-PWR-SI bundle (48 Ethernet 10/100/1000 PoE+ ports, 4 10 Gig SFP+, with 650W DC power)
S5720-52X-PWR-SI-ACF	S5720-52X-PWR-SI bundle (48 Ethernet 10/100/1000 PoE+ ports, 4 10 Gig SFP+, with 1150W AC power supply)
S5720S-28P-SI-AC	S5720S-28P-SI-AC (24 Ethernet 10/100/1000 ports, 4 Gig SFP, AC 110/220V)
S5720S-28X-SI-AC	S5720S-28X-SI-AC (24 Ethernet 10/100/1000 ports, 4 10 Gig SFP+, AC 110/220V)
S5720S-28X-SI-DC	S5720S-28X-SI-AC (24 Ethernet 10/100/1000 ports, 4 10 Gig SFP+, DC)
S5720S-52P-SI-AC	S5720S-52P-SI-AC (48 Ethernet 10/100/1000 ports, 4 Gig SFP, AC 110/220V)
S5720S-52X-SI-AC	S5720S-52X-SI-AC (48 Ethernet 10/100/1000 ports, 4 10 Gig SFP+, AC 110/220V)
S5720S-52X-SI-DC	S5720S-52X-SI-DC(S5720S-52X-SI-AC (48 Ethernet 10/100/1000 ports, 4 10 Gig SFP+, DC)
ES0W2PSA0150	RPS1800 redundant power supply
ES0W2PSD0150	150 W AC power module
PAC-500WA-BE	150 W DC power module
PDC-650WA-BE	500 W AC PoE power module
W2PSA1150	650 W DC PoE power module
RPS1800	1150 W AC PoE power module

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



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HUAWEI TECHNOLOGIES CO.,LTD.
Huawei Industrial Base
Bantian Longgang
Shenzhen 518129,P.R.China
Tel: +86 755 28780808

www.huawei.com