

# Huawei S5720I-SI Switches Product Brochure



# S5720I-SI Series Switches

## Product Overview

The S5720I-SI series switches (S5720I-SI for short) are next-generation standard gigabit Layer 3 Ethernet switches that provide flexible full gigabit access and cost-effective fixed GE ports and 10GE uplink ports. The S5720I-SI was developed based on next-generation high-performing hardware and the Huawei Versatile Routing Platform (VRP). The S5720I-SI supports simplified operations and maintenance (O&M), intelligent stack (iStack) and flexible Ethernet networking. It also provides enhanced Layer 3 features and mature IPv6 features.

The S5720I-SI supports high range of operating temperature, so the switch can be working in the outdoor cabinet in the very cold and very hot environments. S5720I-SI can be widely used in safe city, ETTx and other scenarios.

## Models and Appearances

The following models are available in the S5720I-SI series.

### S5720I-12X-SI-AC



- 8 Ethernet 10/100/1000Base-T ports, 4 10 Gig SFP+ ports
- 2 monitor input ports
- USB 2.0 port, Console port (RJ45)
- Fixed AC power supply
- Forwarding performance: 72 Mpps
- Switching capacity: 336 Gbit/s
- Operating temperature: -40° C to +75° C

### S5720I-12X-PWH-SI-DC



- 8 Ethernet 10/100/1000Base-T ports, 4 10 Gig SFP+ ports
- 2 monitor input ports
- USB 2.0 port, Console port (RJ45)
- -56V DC input or optional power supply PAC-260WA-E
- PoE++
- Forwarding performance: 72 Mpps
- Switching capacity: 336 Gbit/s
- Operating temperature: -40° C to +75° C

### S5720I-28X-SI-AC



- 24 Ethernet 10/100/1000Base-T ports, 4 10 Gig SFP+ ports
- 2 monitor input ports
- USB 2.0 port, Console port (RJ45)
- Fixed dual AC power supply
- Forwarding performance: 96 Mpps
- Switching capacity: 336 Gbit/s
- Operating temperature: -40°C to +65°C

### S5720I-28X-PWH-SI-AC



- 24 Ethernet 10/100/1000Base-T ports, 4 10 Gig SFP+ ports
- 2 monitor input ports
- USB 2.0 port, Console port (RJ45)
- Fixed dual AC power supply
- PoE++
- Forwarding performance: 96 Mpps
- Switching capacity: 336 Gbit/s
- Operating temperature: -40°C to +65°C

## Product Features and Highlights

### Suitable for outdoor extreme environment

- S5720I-SI supports broad operating temperature range. So the switch can be working in the outdoor cabinet in the very cold and very hot environments. The typical scenario is the access of the camera for outdoor video surveillance and ETTx.
- Service ports support  $\pm 6$ kV lightning protection, suitable for outdoor extreme environment

### POE++ large power supply

- S5720I-SI has PoE++ model, which supports multiple GE POE++ Ethernet electrical ports. The POE++ model provides up to 60 W power supply per port.
- S5720I-SI PoE++ model supports long-distance PoE++, works with Huawei M2220-I/M2221-FL/M2221-VL/M2260-I/M2220-I (8-32mm) series cameras to provide 200 m long-distance power supply through 100Mbps links, 250m through 10Mbps links

### Maintenance-free through lifecycle

- S5720I-28X-SI-AC and S5720I-28X-PWH-SI-AC provide built-in dual power supplies and redundancy backup of fans, maintenance-free through lifecycle

### Powerful service processing capability and multiple security control mechanisms

- The S5720I-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.
- The S5720I-SI supports multiple Layer 3 features including OSPF, IS-IS, BGP, and VRRP, meeting enterprises' requirements on access and aggregation service bearing, and enabling a variety of voice, video, and data applications.
- The S5720I-SI supports MAC address authentication, 802.1x authentication, and Portal authentication, and implements dynamic delivery of policies (VLAN, QoS, and ACL) to users.

- The S5720I-SI provides a series of mechanisms to defend against DoS 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 S5720I-SI 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 S5720I-SI supports strict ARP learning, which protects a network against ARP spoofing attacks to ensure normal network access.

### Cloud management

- The Huawei cloud management platform allows users to configure, monitor, and inspect switches on the cloud, reducing on-site deployment and O&M manpower costs and decreasing network OPEX. Huawei switches support both cloud management and on-premise management modes. These two management modes can be flexibly switched as required to achieve smooth evolution while maximizing return on investment (ROI).

### Easy O&M

- The S5720I-SI supports Super Virtual Fabric (SVF), which virtualizes the "Core/aggregation + Access switch + AP" structure into a logical device. The S5720I-SI provides the simplest network management solution in the industry to simplify device management. It allows plug-and-play access switches and APs. In addition, the S5720I-SI supports service configuration templates. The templates are configured on core devices and automatically delivered to access devices, enabling centralized control, simplified service configuration, and flexible configuration modification. The S5720I-SI functions as a client in an SVF system.
- The S5720I-SI supports zero-touch deployment, replacement of faulty devices without additional configuration, USB-based deployment, batch configuration, and batch remote upgrade. The capabilities facilitate device deployment, upgrade, service provisioning, and other management and maintenance operations, and also greatly reduce O&M costs. The S5720I-SI can be managed using SNMP v1/v2c/v3, CLI, web-based network management system, or SSH v2.0. Additionally, it supports RMON, multiple log hosts, port traffic statistics collection, and network quality analysis, which facilitate network optimization and reconstruction.
- The S5720I-SI supports the Sampled Flow (sFlow) function. It uses a method defined in the sFlow standard to sample traffic passing through it and sends sampled traffic to the collector in real time. The collected traffic statistics are used to generate statistical reports, helping enterprises maintain their networks.

### Multiple reliability mechanisms

- The S5720I-SI supports iStack. This technology can virtualize up to nine physical switches into one logical switch. Downlink electrical ports support iStack. 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 a stack's ports, bandwidth, and processing capacity by simply adding member switches. iStack also simplifies device configuration and management. After a stack is set up, multiple physical switches are virtualized into one logical device. You can log in to any member switch in the stack to manage all the member switches in the stack.
- In addition to traditional STP, RSTP, and MSTP, the S5720I-SI 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 within 50 ms. ERPS is defined in ITU-T G.8032. It implements millisecond-level protection switching based on traditional Ethernet MAC and bridging functions.

- The S5720I-SI supports Smart Link. One S5720I-SI switch can connect to multiple aggregation switches through multiple links, implementing backup of uplinks and significantly improving reliability of access devices.
- The S5720I-SI supports Ethernet OAM (IEEE 802.3ah/802.1ag) to detect link faults quickly.

### Mature IPv6 technologies

- The S5720I-SI uses the mature, stable VRRP platform and supports IPv4/IPv6 dual stack, IPv6 RIPng, and IPv6 over IPv4 tunnels (including manual, 6-to-4, and ISATAP tunnels). With these IPv6 features, the S5720I-SI can be deployed on a pure IPv4 network, a pure IPv6 network, or a shared IPv4/IPv6 network, helping achieve IPv4-to-IPv6 transition.

## Product Specifications

Item	S5720I-12X-SI-AC	S5720I-12X-PWH-SI-DC	S5720I-28X-SI-AC	S5720I-28X-PWH-SI-AC
Fixed ports	8 Ethernet 10/100/1000 ports, 4 10 Gig SFP+		24 Ethernet 10/100/1000 ports, 4 10 Gig SFP+	
Management interface	Console(RJ45), USB 2.0			
PoE	NA	8 PoE++ ports	NA	8 PoE++ ports, 16 PoE+ ports
Dimensions mm (W × D × H)	250*180*43.6		442*220*43.6	442*310*43.6
Power module	AC (fixed)	DC input or optional AC power module PAC-260WA-E	AC (fixed two power)	AC (fixed two power)
Input voltage	AC power supply: Rated AC voltage: 100-240V AC;50/60Hz Max AC voltage: 90-264V AC;47~63Hz  DC power supply: Rated DC voltage:-50- -56V DC Max DC voltage: -46- -57V DC			
Operating temperature	0 -1800 m altitude: -40°C to+75°C -40°C to+70° C (Vented Enclosure – 40LFM Air Flow) -40°C to+65° C (Sealed Enclosure – 0 LFM Air Flow) -40°C to+75° C (Fan or Blower equipped Enclosure – 200 LFM Air Flow) 1800-5000 m altitude: The operating temperature reduces by 1°C every time the altitude increases by 220 m.		0-1800 m altitude: -40°C to +65°C 1800-5000 m altitude: The operating temperature reduces by 1°C every time the altitude increases by 220 m.	
Lightning protection	± 6kV ( Service Ports )			
IP Code	IP30			
Relative humidity	5% to 95% (non-condensing)			
Heat dissipation	Natural heat dissipation without fans		Heat dissipation with fan, intelligent fan speed adjustment	

## Service Features

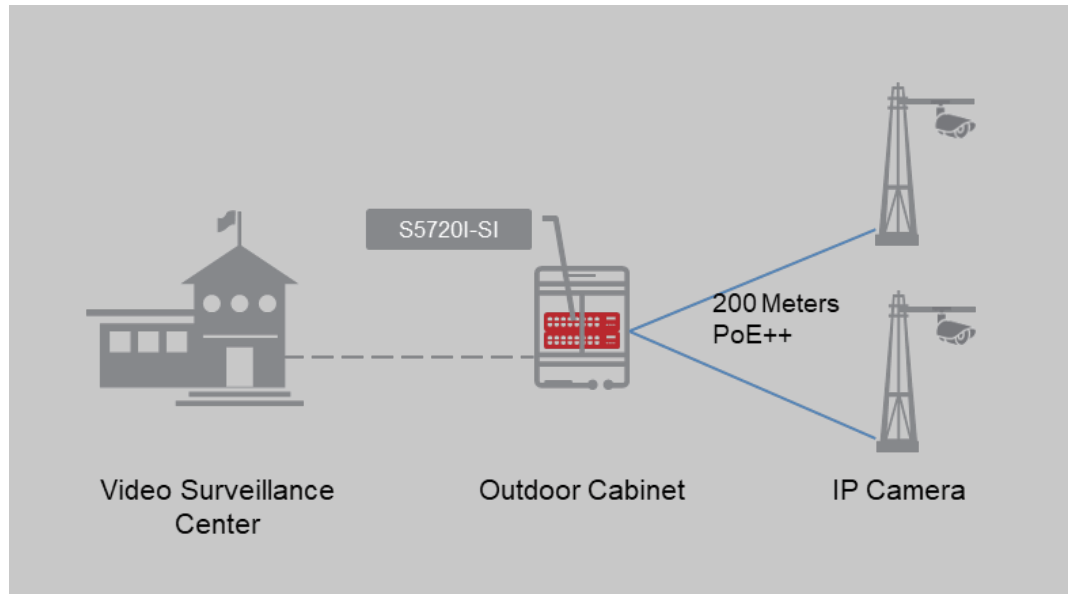
Item	Description
MAC address table	<p>IEEE 802.1d compliance</p> <p>16K MAC address entries</p> <p>MAC address learning and aging</p> <p>Static, dynamic, and blackhole MAC address entries</p> <p>Packet filtering based on source MAC addresses</p>
VLAN	<p>4K VLANs</p> <p>Guest VLAN and voice VLAN</p> <p>GVRP</p> <p>MUX VLAN</p> <p>VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports</p> <p>1:1 and N:1 VLAN mapping</p>
Reliability	<p>RRPP ring topology and RRPP multi-instance</p> <p>Smart Link tree topology and Smart Link multi-instance, providing millisecond-level protection switchover</p> <p>SEP</p> <p>STP (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s)</p> <p>ERPS (G.8032)</p> <p>BPDU protection, root protection, and loop protection</p>
IP routing	<p>Static route, RIPv1/v2, RIPng, OSPF, OSPFv3, ECMP, IS-IS, IS-ISv6, BGP, BGP4+, VRRP, and VRRP6</p>
IPv6 features	<p>Neighbor Discovery (ND)</p> <p>Path MTU (PMTU)</p> <p>IPv6 ping, IPv6 tracert, and IPv6 Telnet</p> <p>6to4 tunnel, ISATAP tunnel, and manually configured tunnel</p>
Multicast	<p>PIM DM, PIM SM, PIM SSM</p> <p>IGMP v1/v2/v3, IGMP v1/v2/v3 snooping and IGMP fast leave</p> <p>MLD v1/v2 and MLD v1/v2 snooping</p> <p>Multicast forwarding in a VLAN and multicast replication between VLANs</p> <p>Multicast load balancing among member ports of a trunk</p> <p>Controllable multicast</p> <p>Port-based multicast traffic statistics</p>
QoS/ACL	<p>Rate limiting on packets sent and received by a port</p> <p>Packet redirection</p> <p>Port-based traffic policing and two-rate three-color CAR</p> <p>Eight queues on each port</p> <p>WRR, DRR, SP, WRR+SP, and DRR+SP queue scheduling algorithms</p> <p>Re-marking of the 802.1p priority and DSCP priority</p> <p>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</p> <p>Rate limiting in each queue and traffic shaping on ports</p>

Item	Description
Security	<p>Hierarchical user management and password protection</p> <p>DoS attack defense, ARP attack defense, and ICMP attack defense</p> <p>Binding of the IP address, MAC address, port number, and VLAN ID</p> <p>Port isolation, port security, and sticky MAC</p> <p>MFF</p> <p>Blackhole MAC address entries</p> <p>Limit on the number of learned MAC addresses</p> <p>IEEE 802.1x authentication and limit on the number of users on a port</p> <p>AAA authentication, RADIUS authentication, HWTACACS authentication, and NAC</p> <p>SSH v2.0</p> <p>HTTPS</p> <p>CPU defense</p> <p>Blacklist and whitelist</p> <p>IEEE 802.1x authentication, MAC address authentication, and Portal authentication</p> <p>DHCPv4/v6 client/relay/server/snooping</p> <p>Attack source tracing and punishment for IPv6 packets such as ND, DHCPv6, and MLD packets</p> <p>Supports separation between user authentication and policy enforcement points</p> <p>IPSec</p>
SVF	<p>Plug-and-play SVF client</p> <p>Automatic software and patch loading to clients</p> <p>One-click and automatic delivery of service configurations</p> <p>Independent client running</p>
OAM	<p>Software OAM:</p> <p>EFM OAM</p> <p>CFM OAM</p> <p>Y.1731 performance test</p>
Management and maintenance	<p>Cloud-based management</p> <p>iStack (using service ports as stack ports)</p> <p>Virtual cable test</p> <p>SNMP v1/v2c/v3</p> <p>RMON</p> <p>Web-based NMS</p> <p>System logs and alarms of different levels</p> <p>sFlow</p> <p>NETCONF</p> <p>Dying gasp upon power-off</p>
Interoperability	Supports VBST (Compatible with PVST/PVST+/RPVST)
	Supports LNP (Similar to DTP)
	Supports VCMP (Similar to VTP)

## Applications

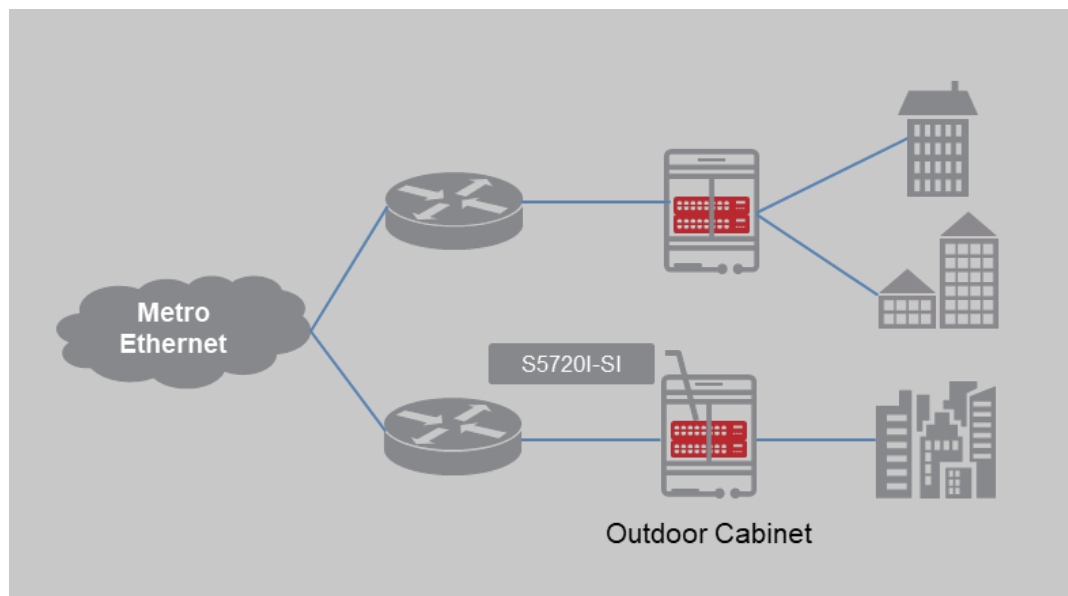
### Video surveillance application in safe city scenario

S5720I-SI supports extended operating temperature range, with professional lightning protection capabilities, suitable for outdoor cabinet environment. S5720I-SI can be used for safe city scenario to provide remote PoE access for the camera.



### ETTx scenario

The S5720I-SI supports extended operating temperature and provides full gigabit access and multi-gigabit uplinks for ETTx access scenarios.





## Ordering Information

Model	Product Description
S5720I-12X-SI-AC	S5720I-12X-SI-AC(8*10/100/1000Base-T ports, 4*10GE SFP+ ports, AC power supply)
S5720I-12X-PWH-SI-DC	S5720I-12X-PWH-SI-DC(8*10/100/1000Base-T ports, 4*10GE SFP+ ports, PoE++, -50--56V DC)
S5720I-28X-SI-AC	S5720I-28X-SI-AC(24*10/100/1000Base-T ports, 4*10GE SFP+ ports, built-in dual AC power supply)
S5720I-28X-PWH-SI-AC	S5720I-28X-PWH-SI-AC(24*10/100/1000Base-T ports, 4*10GE SFP+ ports, 8 PoE++ ports, 16 PoE+ ports, 740W PoE, built-in dual AC power supply)
PAC-260WA-E	260W AC power module(black)

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



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