

S6720-HI Series Full-Featured 10 GE Routing Switches

S6720-HI series full-featured 10GE routing switches are Huawei’s first IDN-ready fixed switches that provide 10GE downlink ports and 40GE/100GE uplink ports.

Introduction

S6720-HI series full-featured 10 GE routing switches are Huawei’s first IDN-ready fixed switches to provide 10 GE downlink ports as well as 40 GE and 100 GE uplink ports.



S6720-HI series switches provide native AC capabilities and can manage 1K APs. They provide a free mobility function to ensure consistent user experience and are Virtual Extensible LAN (VXLAN) capable to implement network virtualization. S6720-HI series switches also provide built-in security probes and support abnormal traffic detection, Encrypted Communications Analytics (ECA), and network-wide threat deception. The S6720-HI is ideal for enterprise campuses, carriers, higher education institutions, and governments.

Product Overview

Models and Appearances

The following models are available in the S6720-HI series.


Models and appearances of the S6720-HI series

Appearance	Description
 S6720-50L-HI-48S	<ul style="list-style-type: none"> 48 x 10 Gig SFP+, 6 x 40 Gig QSFP+ or 44 x 10 Gig SFP+, 4 x 40 Gig QSFP+, 2 x 100 Gig QSFP28 Dual pluggable power modules, 600W AC or 350W DC (no equipped power modules by default) Switching capacity: 2.56 Tbit/s
 S6720-30L-HI-24S	<ul style="list-style-type: none"> 24 x 10 Gig SFP+, 4 x 40 Gig QSFP+, 2 x 100 Gig QSFP28 Dual pluggable power modules, 600W AC or 350W DC (no equipped power modules by default) Switching capacity: 2.56 Tbit/s

Fan Module

The following table lists the fan module on the S6720-HI.



Technical specifications of the fan module applicable to the S6720-HI series

Fan Module	Technical Specifications	Applied Switch Model
 FAN-40HA-B	<ul style="list-style-type: none"> • Dimensions (W x D x H): 94.5 mm x 183.1 mm x 39.8 mm • Number of fan modules: 2 • Weight: 0.415 kg • Maximum power consumption: 40 W • Maximum fan speed: 19000±10% revolutions per minute (RPM) • Maximum wind rate: 64 cubic feet • Hot swap: Supported 	<ul style="list-style-type: none"> • S6720-50L-HI-48S • S6720-30L-HI-24S

Power Supply

The following table lists the power supplies on the S6720-HI.

Technical specifications of power supplies applicable to the S6720-HI series

Power Module	Technical Specifications	Applied Switch Model
 PDC-350WA-B	<ul style="list-style-type: none"> • Dimensions (W x D x H): 100 mm x 205 mm x 40 mm (3.9 in. x 8.1 in. x 1.6 in.) • Weight: 0.72 kg (1.59 lb) • Rated input voltage range: -48 V DC to -60 V DC • Maximum input voltage range: -38.4 V DC to -72 V DC • Maximum input current: 11 A • Maximum output current: 29.17 A • Rated output voltage: 12 V • Maximum output power: 350 W • Hot swap: Supported 	<ul style="list-style-type: none"> • S6720-30L-HI-24S • S6720-50L-HI-48S
 PAC-600WA-B	<ul style="list-style-type: none"> • Dimensions (W x D x H): 100 mm x 205 mm x 40 mm (3.9 in. x 8.1 in. x 1.6 in.) • Weight: 1.0 kg (2.20 lb) • Rated input voltage range: 100 V AC to 240 V AC, 50/60 Hz • Maximum input voltage range: 90 V AC to 290 V AC, 45 Hz to 65 Hz • Maximum input current: 9 A • Maximum output current: 50 A • Rated output voltage: 12 V • Maximum output power: 600 W • Hot swap: Supported 	<ul style="list-style-type: none"> • S6720-30L-HI-24S • S6720-50L-HI-48S

The S6720-HI 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.

Product Features and Highlights

Abundant Convergence Feature

- This S6720-HI provides the integrated WLAN AC function that can manage 1,000 APs, reducing the costs of purchasing additional WLAN AC hardware. The wireless forwarding performance reaches up to 668 Gbit/s, breaking the forwarding performance bottleneck of an external WLAN AC. With this switch series, customers can stay ahead in the high-speed wireless era.

NOTE

The wireless forwarding performance is calculated based on 1024-byte packets.

- The S6720-HI supports SVF and functions as a parent switch. With this virtualization technology, a physical network with the "Small-sized core/aggregation switches + Access switches + APs" structure can be virtualized into a "super switch", offering the industry's simplest network management solution.
- The S6720-HI provides excellent QoS capabilities and supports queue scheduling and congestion control algorithms. 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.

Providing Fine Granular Network Management

- The S6720-HI uses the Packet Conservation Algorithm for Internet (iPCA) technology that changes the traditional method of using simulated traffic for fault location. iPCA technology can monitor network quality for any service flow anywhere, anytime, without extra costs. It can detect temporary service interruptions in a very short time and can identify faulty ports accurately. This cutting-edge fault detection technology turns "extensive management" to "fine granular management."
- The S6720-HI supports Two-Way Active Measurement Protocol (TWAMP) to accurately check any IP link and obtain the entire network's IP performance. This protocol eliminates the need of using a dedicated probe or a proprietary protocol.

Flexible Ethernet Networking

- In addition to traditional Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), and Multiple Spanning Tree Protocol (MSTP), the S6720-HI 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 service 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 S6720-HI supports Smart Link and Virtual Router Redundancy Protocol (VRRP), which implement backup of uplinks. One S6720-HI switch can connect to multiple aggregation switches through multiple links, significantly improving reliability of access devices.

Intelligent Stack (iStack)

- The S6720-HI 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 a stack's ports, bandwidth, and processing capability by simply adding member switches. iStack also simplifies device configuration and management. After a stack is set up, multiple physical switches can be virtualized into one logical device. You can log in to any member switch in the stack to manage all the member switches in it.

Cloud-based 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).

VXLAN

- VXLAN is used to construct a Unified Virtual Fabric (UVF). As such, multiple service networks or tenant networks can be deployed on the same physical network, and service and tenant networks are isolated from each other. This capability truly achieves 'one network for multiple purposes'. The resulting benefits include enabling data transmission of different services or customers, reducing the network construction costs, and improving network resource utilization. The S6720-HI series switches

are VXLAN-capable and allow centralized and distributed VXLAN gateway deployment modes. These switches also support the BGP EVPN protocol for dynamically establishing VXLAN tunnels and can be configured using NETCONF/YANG.

Clock Synchronization

- The S6720-HI supports the IEEE 1588v2 protocol, which implements low-cost, high-precision, and high-reliability time and clock synchronization. This feature can meet strict requirements of power and transportation industry customers on time and clock synchronization.

OPS

- Open Programmability System (OPS) is an open programmable system based on the Python language. IT administrators can program the O&M functions of a switch through Python scripts to quickly innovate functions and implement intelligent O&M.

Big Data Powered Collaborative Security

- Agile switches use NetStream to collect campus network data and then report such data to the Huawei Cybersecurity Intelligence System (CIS). The purposes of doing so are to detect network security threats, display the security posture across the entire network, and enable automated or manual response to security threats. The CIS delivers the security policies to the Agile Controller. The Agile Controller then delivers such policies to agile switches that will handle security events accordingly. All these ensure campus network security.
- The S6720-HI supports Encrypted Communication Analytics (ECA). It uses built-in ECA probes to extract characteristics of encrypted streams based on NetStream sampling and Service Awareness (SA), generates metadata, and reports the metadata to Huawei Cybersecurity Intelligence System (CIS). The CIS uses the AI algorithm to train the traffic model and compare characteristics of extracted encrypted traffic to identify malicious traffic. The CIS displays detection results on the GUI, provides threat handling suggestions, and automatically isolates threats with the Agile Controller to ensure campus network security.
- The S6720-HI supports deception. It functions as a sensor to detect threats such as IP address scanning and port scanning on a network and lures threat traffic to the honeypot for further checks. The honeypot performs in-depth interaction with the initiator of the threat traffic, records various application-layer attack methods of the initiator, and reports security logs to the CIS. The CIS analyzes security logs. If the CIS determines that the suspicious traffic is an attack, it generates an alarm and provides handling suggestions. After the administrator confirms the alarm, the CIS delivers a policy to the Agile Controller. The Agile Controller delivers the policy to the switch for security event processing, ensuring campus network security.

Intelligent O&M

- The S6720-HI provides telemetry technology to collect device data in real time and send the data to Huawei campus network analyzer CampusInsight. The CampusInsight analyzes network data based on the intelligent fault identification algorithm, accurately displays the real-time network status, effectively demarcates and locates faults in a timely manner, and identifies network problems that affect user experience, accurately guaranteeing user experience.
- The S6720-HI supports a variety of intelligent O&M features for audio and video services, including the enhanced Media Delivery Index (eMDI). With this eMDI function, the S6720-HI can function as a monitored node to periodically conduct statistics and report audio and video service indicators to the CampusInsight platform. In this way, the CampusInsight platform can quickly demarcate audio and video service quality faults based on the results of multiple monitored nodes.

Product Specifications

Functions and Features

The following table describes the functions and features available on the S6720-HI.

Function and feature metrics for the S6720-HI series

Function and Feature		Description	S6720-30L-HI-24S	S6720-50L-HI-48S
Ethernet features	Ethernet basics	Rate auto-negotiation on an interface	Yes	Yes
		Flow control on an interface	Yes	Yes
		Jumbo frames	Yes	Yes

Function and Feature		Description	S6720-30L-HI-24S	S6720-50L-HI-48S
		Link aggregation	Yes	Yes
		Load balancing among links of a trunk	Yes	Yes
		Transparent transmission of Layer 2 protocol packets	Yes	Yes
		Device Link Detection Protocol (DLDP)	Yes	Yes
		Link Layer Discovery Protocol (LLDP)	Yes	Yes
		Link Layer Discovery Protocol-Media Endpoint Discovery (LLDP-MED)	Yes	Yes
		Interface isolation	Yes	Yes
		Broadcast traffic suppression on an interface	Yes	Yes
		Multicast traffic suppression on an interface	Yes	Yes
		Unknown unicast traffic suppression on an interface	Yes	Yes
		VLAN broadcast traffic suppression	Yes	Yes
		VLAN multicast traffic suppression	Yes	Yes
		VLAN unknown unicast traffic suppression	Yes	Yes
		VLAN	VLAN specification	4094
	VLANIF interface specification	1024	1024	
	Access mode	Yes	Yes	
	Trunk mode	Yes	Yes	
	Hybrid mode	Yes	Yes	
	QinQ mode	Yes	Yes	
	Default VLAN	Yes	Yes	
	VLAN assignment based on interfaces	Yes	Yes	
	VLAN assignment based on protocols	Yes	Yes	
	VLAN assignment based on IP subnets	Yes	Yes	
	VLAN assignment based on MAC addresses	Yes	Yes	
	VLAN assignment based on MAC address + IP address	Yes	Yes	
	VLAN assignment based on MAC address + IP address + interface number	Yes	Yes	
	Adding double VLAN tags to packets based on interfaces	Yes	Yes	
Super-VLAN	Yes	Yes		

Function and Feature		Description	S6720-30L-HI-24S	S6720-50L-HI-48S	
		Super-VLAN specification	256	256	
		Sub-VLAN	Yes	Yes	
		Sub-VLAN specification	1K	1K	
		VLAN mapping	Yes	Yes	
		Selective QinQ	Yes	Yes	
		MUX VLAN	Yes	Yes	
		Voice VLAN	Yes	Yes	
		Guest VLAN	Yes	Yes	
	GVRP	GARP	Yes	Yes	
		GVRP	Yes	Yes	
	VCMP	VCMP	Yes	Yes	
	MAC	MAC address	48K	48K	
		Automatic learning of MAC addresses	Yes	Yes	
		Automatic aging of MAC addresses	Yes	Yes	
		Static, dynamic, and blackhole MAC address entries	Yes	Yes	
		Interface-based MAC address learning limiting	Yes	Yes	
		Sticky MAC	Yes	Yes	
		MAC address flapping detection	Yes	Yes	
		Configuring MAC address learning priorities for interfaces	Yes	Yes	
		MAC address spoofing defense	Yes	Yes	
		Port bridge	Yes	Yes	
	ARP	Static ARP	Yes	Yes	
		Dynamic ARP	Yes	Yes	
		ARP entry	60K	60K	
		ARP aging detection	Yes	Yes	
		Intra-VLAN proxy ARP	Yes	Yes	
		Inter-VLAN proxy ARP	Yes	Yes	
		Routed proxy ARP	Yes	Yes	
		Multi-egress-interface ARP	Yes	Yes	
	Ethernet loop protection	MSTP	STP	Yes	Yes
			RSTP	Yes	Yes
			MSTP	Yes	Yes

Function and Feature		Description	S6720-30L-HI-24S	S6720-50L-HI-48S
		VBST	Yes	Yes
		BPDU protection	Yes	Yes
		Root protection	Yes	Yes
		Loop protection	Yes	Yes
		Defense against TC BPDU attacks	Yes	Yes
	Loopback detection	Loop detection on an interface	Yes	Yes
	SEP	SEP	Yes	Yes
	Smart Link	Smart Link	Yes	Yes
		Smart Link multi-instance	Yes	Yes
		Monitor Link	Yes	Yes
	RRPP	RRPP	Yes	Yes
		Single RRPP ring	Yes	Yes
		Tangent RRPP ring	Yes	Yes
		Intersecting RRPP ring	Yes	Yes
		Hybrid networking of RRPP rings and other ring networks	Yes	Yes
	ERPS	G.8032 v1	Yes	Yes
		G.8032 v2	Yes	Yes
		ERPS semi-ring topology	Yes	Yes
		ERPS closed-ring topology	Yes	Yes
	IPv4/IPv6 forwarding	IPv4 and unicast routing	IPv4 static routing	Yes
VRF			Yes	Yes
DHCP client			Yes	Yes
DHCP server			Yes	Yes
DHCP relay			Yes	Yes
DHCP policy VLAN			Yes	Yes
URPF check			Yes	Yes
Routing policies			Yes	Yes
IPv4 routes			64K	64K
RIPv1			Yes	Yes
RIPv2			Yes	Yes
OSPF			Yes	Yes
BGP			Yes	Yes
MBGP			Yes	Yes

Function and Feature		Description	S6720-30L-HI-24S	S6720-50L-HI-48S
		IS-IS	Yes	Yes
		Policy-based routing (PBR)	Yes	Yes
	Multicast routing features	IGMPv1/v2/v3	Yes	Yes
		PIM-DM	Yes	Yes
		PIM-SM	Yes	Yes
		MSDP	Yes	Yes
		IPv4 multicast routes	32K	32K
		IPv6 multicast routes	2K	2K
		Multicast routing policies	Yes	Yes
		RPF	Yes	Yes
		IPv6 features	IPv6 protocol stack	Yes
	ND		Yes	Yes
	ND entry		22K	22K
	ND snooping		Yes	Yes
	DHCPv6 snooping		Yes	Yes
	RIPng		Yes	Yes
	DHCPv6 server		Yes	Yes
	DHCPv6 relay		Yes	Yes
	OSPFv3		Yes	Yes
	BGP4+		Yes	Yes
	IS-IS for IPv6		Yes	Yes
	IPv6 routes		22K	22K
	VRRP6		Yes	Yes
	MLDv1/v2		Yes	Yes
	PIM-DM for IPv6		Yes	Yes
	PIM-SM for IPv6	Yes	Yes	
	IPv6 transition technology	IPv6 manual tunneling	Yes	Yes
Layer 2 multicast features	-	IGMPv1/v2/v3 snooping	Yes	Yes
		IGMP snooping proxy	Yes	Yes
		MLD snooping	Yes	Yes
		Multicast traffic suppression	Yes	Yes
		Inter-VLAN multicast replication	Yes	Yes
MPLS & VPN	MPLS basic functions	LDP protocol	Yes	Yes

Function and Feature		Description	S6720-30L-HI-24S	S6720-50L-HI-48S
		Double MPLS labels	Yes	Yes
		Mapping from 802.1p priorities to EXP priorities in MPLS packets	Yes	Yes
		Mapping from DSCP priorities to EXP priorities in MPLS packets	Yes	Yes
	MPLS TE	MPLS-TE tunnel establishment	Yes	Yes
		MPLS-TE tunnel specification	256	256
		MPLS-TE protection group	Yes	Yes
	VPN	MCE	Yes	Yes
		GRE tunneling	Yes	Yes
		GRE tunnel specification	512	512
		VLL	Yes	Yes
		PWE3	Yes	Yes
		VPLS	Yes	Yes
		MPLS L3VPN	Yes	Yes
IPSec Efficient VPN	Yes	Yes		
Device reliability	BFD	Single-hop BFD	Yes	Yes
		BFD for static routes	Yes	Yes
		BFD for OSPF	Yes	Yes
		BFD for IS-IS	Yes	Yes
		BFD for BGP	Yes	Yes
		BFD for PIM	Yes	Yes
	BFD for VRRP	Yes	Yes	
	Stacking	Service interface-based stacking	Yes	Yes
		Maximum number of stacked devices	9	9
		Stack bandwidth (Unidirectional)	Up to 360 Gbit/s	Up to 360 Gbit/s
VRRP	VRRP standard protocol	Yes	Yes	
Ethernet OAM	EFM (802.3ah)	Automatic discovery of links	Yes	Yes
		Link fault detection	Yes	Yes
		Link troubleshooting	Yes	Yes
		Remote loopback	Yes	Yes
	CFM (802.1ag)	Software-level CCM	Yes	Yes
		802.1ag MAC ping	Yes	Yes
		802.1ag MAC trace	Yes	Yes

Function and Feature		Description	S6720-30L-HI-24S	S6720-50L-HI-48S
	OAM association	Association between 802.1ag and 802.3ah	Yes	Yes
	Y.1731	Unidirectional delay and jitter measurement	Yes	Yes
		Bidirectional delay and jitter measurement	Yes	Yes
QoS features	Traffic classification	Traffic classification based on ACLs	Yes	Yes
		Configuring traffic classification priorities	Yes	Yes
		Matching the simple domains of packets	Yes	Yes
	Traffic behavior	Traffic filtering	Yes	Yes
		Traffic policing (CAR)	Yes	Yes
		Modifying the packet priorities	Yes	Yes
		Modifying the simple domains of packets	Yes	Yes
		Modifying the packet VLANs	Yes	Yes
	Traffic shaping	Traffic shaping on an egress interface	Yes	Yes
		Traffic shaping on queues on an interface	Yes	Yes
	Congestion avoidance	Weighted Random Early Detection (WRED) on queues	Yes	Yes
		Tail drop	Yes	Yes
	Congestion management	Priority Queuing (PQ)	Yes	Yes
		Weighted Deficit Round Robin (WDRR)	Yes	Yes
		PQ+WDRR	Yes	Yes
Weighted Round Robin (WRR)		Yes	Yes	
PQ+WRR		Yes	Yes	
ACL	Packet filtering at Layer 2 to Layer 4	Number of rules per IPv4 ACL	4K	4K
		Number of rules per IPv6 ACL	2K	2K
		Basic IPv4 ACL	Yes	Yes
		Advanced IPv4 ACL	Yes	Yes
		Basic IPv6 ACL	Yes	Yes
		Advanced IPv6 ACL	Yes	Yes
		Layer 2 ACL	Yes	Yes
		User group ACL	Yes	Yes
		User-defined ACL	Yes	Yes
Configuration and maintenance	Login and configuration management	Command line interface (CLI)-based configuration	Yes	Yes
		Console terminal service	Yes	Yes
		Telnet terminal service	Yes	Yes

Function and Feature		Description	S6720-30L-HI-24S	S6720-50L-HI-48S
		SSH v1.5	Yes	Yes
		SSH v2.0	Yes	Yes
		SNMP-based NMS for unified configuration	Yes	Yes
		Web page-based configuration and management	Yes	Yes
		EasyDeploy (client)	Yes	Yes
		EasyDeploy (commander)	Yes	Yes
		SVF	Yes	Yes
		Cloud management	Yes	Yes
		OPS	Yes	Yes
	File system	Directory and file management	Yes	Yes
		File upload and download	Yes	Yes
	Monitoring and maintenance	Deception	Yes	Yes
		ECA	Yes	Yes
		eMDI	Yes	Yes
		Hardware monitoring	Yes	Yes
		Log information output	Yes	Yes
		Alarm information output	Yes	Yes
		Debugging information output	Yes	Yes
		Port mirroring	Yes	Yes
		Flow mirroring	Yes	Yes
		Remote mirroring	Yes	Yes
		Energy saving	Yes	Yes
	Version upgrade	Version upgrade	Yes	Yes
Version rollback		Yes	Yes	
Security	ARP security	ARP packet rate limiting	Yes	Yes
		ARP anti-spoofing	Yes	Yes
		Association between ARP and STP	Yes	Yes
		ARP gateway anti-collision	Yes	Yes
		Dynamic ARP Inspection (DAI)	Yes	Yes
		Static ARP Inspection (SAI)	Yes	Yes
		Egress ARP Inspection (EAI)	Yes	Yes
	IP security	ICMP attack defense	Yes	Yes
		IPSG for IPv4	Yes	Yes

Function and Feature		Description	S6720-30L-HI-24S	S6720-50L-HI-48S
		IPSG user capacity	3000	3000
		IPSG for IPv6	Yes	Yes
		IPSGv6 user capacity	1500	1500
	Local attack defense	CPU attack defense	Yes	Yes
	MFF	MFF	Yes	Yes
	DHCP snooping	DHCP snooping	Yes	Yes
		Option 82 function	Yes	Yes
		Dynamic rate limiting for DHCP packets	Yes	Yes
	Attack defense	Defense against malformed packet attacks	Yes	Yes
		Defense against UDP flood attacks	Yes	Yes
		Defense against TCP SYN flood attacks	Yes	Yes
		Defense against ICMP flood attacks	Yes	Yes
		Defense against packet fragment attacks	Yes	Yes
		Local URPF	Yes	Yes
	User access and authentication	AAA	Local authentication	Yes
Local authorization			Yes	Yes
RADIUS authentication			Yes	Yes
RADIUS authorization			Yes	Yes
RADIUS accounting			Yes	Yes
HWTACACS authentication			Yes	Yes
HWTACACS authorization			Yes	Yes
HWTACACS accounting			Yes	Yes
NAC		802.1X authentication	Yes	Yes
		MAC address authentication	Yes	Yes
		Portal authentication	Yes	Yes
		Hybrid authentication	Yes	Yes
Policy association		Functioning as the control device	Yes	Yes
Network management		-	Ping	Yes
	Tracert		Yes	Yes
	NQA		Yes	Yes
	NTP		Yes	Yes
	iPCA		Yes	Yes
	NetStream		Yes	Yes
	SNMP v1		Yes	Yes

Function and Feature		Description	S6720-30L-HI-24S	S6720-50L-HI-48S
		SNMP v2c	Yes	Yes
		SNMP v3	Yes	Yes
		HTTP	Yes	Yes
		HTTPS	Yes	Yes
		RMON	Yes	Yes
		RMON2	Yes	Yes
		NETCONF/YANG	Yes	Yes
WLAN	-	AP management	Yes	Yes
		Number of managed APs	1K	1K
		Radio management	Yes	Yes
		WLAN service management	Yes	Yes
		WLAN QoS	Yes	Yes
		WLAN security	Yes	Yes
		WLAN user management	Yes	Yes
VXLAN	-	VXLAN Layer 2 gateway	Yes	Yes
		VXLAN Layer 3 gateway	Yes	Yes
		Centralized gateway	Yes	Yes
		Distributed gateway	Yes	Yes
		BGP-EVPN	Yes	Yes
		BGP-EVPN neighbor capacity	256	256
Interoperability	-	VLAN-based Spanning Tree (VBST)	Yes	Yes
		Link-type Negotiation Protocol (LNP)	Yes	Yes
		VLAN Central Management Protocol (VCMP)	Yes	Yes

NOTE

This content is applicable only to regions outside mainland China. Huawei reserves the right to interpret this content.

Hardware Specifications

The following table lists hardware specifications of the S6720-HI series.

Hardware specifications of the S6720-HI series

Item		S6720-30L-HI-24S	S6720-50L-HI-48S
Physical specifications	Chassis dimensions (W x D x H, mm)	442 x 420 x 43.6	442 x 420 x 43.6
	Chassis height	1 U	1 U
	Chassis weight (full configuration weight,	9.86 kg	10.16 kg

Item		S6720-30L-HI-24S	S6720-50L-HI-48S
	including weight of packaging materials)		
Fixed port	10GE port	24	48
	40GE port	4	4
	100GE port	2	2
Management port	ETH management port	Supported	Supported
	Console port (RJ45)	Supported	Supported
	USB port	USB 2.0	USB 2.0
CPU	Frequency	1.5 GHz	1.5 GHz
	Cores	8	8
Memory	Memory (RAM)	2 GB	2 GB
	Flash	Hardware: 1 GB, of which 624 MB is available for users	Hardware: 1 GB, of which 624 MB is available for users
Power supply system	Power supply type	<ul style="list-style-type: none"> 600 W AC (pluggable) 350 W DC (pluggable) 	<ul style="list-style-type: none"> 600 W AC (pluggable) 350 W DC (pluggable)
	Rated voltage range	<ul style="list-style-type: none"> AC: 100 V AC to 240 V AC, 50/60 Hz DC: -48 V DC to -60 V DC 	<ul style="list-style-type: none"> AC: 100 V AC to 240 V AC, 50/60 Hz DC: -48 V DC to -60 V DC
	Maximum voltage range	<ul style="list-style-type: none"> AC: 90 V AC to 264 V AC; 47-63 Hz DC: -38.4 V DC to -72 V DC 	<ul style="list-style-type: none"> AC: 90 V AC to 264 V AC; 47-63 Hz DC: -38.4 V DC to -72 V DC
	Maximum input current	<ul style="list-style-type: none"> 600 W AC: 9 A 350 W DC: 11 A 	<ul style="list-style-type: none"> 600 W AC: 9 A 350 W DC: 11 A
	Maximum power consumption of the device	232 W	279 W
	Power consumption in the case of 30% traffic load ¹	138 W	194 W
	Power consumption in the case of 100% traffic load ¹	150 W	215 W
Heat dissipation system	Heat dissipation mode	Air-cooled heat dissipation and intelligent fan speed adjustment	Air-cooled heat dissipation and intelligent fan speed adjustment
	Number of fan modules	Pluggable dual fans	Pluggable dual fans
	Airflow	Front-to-back	Front-to-back
Environment parameters	Long-term operating temperature	<ul style="list-style-type: none"> 0-1800 m: 0°C to 45°C 1800-5000 m: The operating temperature decreases 1°C for every 220 m increase in altitude. 	<ul style="list-style-type: none"> 0-1800 m: 0°C to 45°C 1800-5000 m: The operating temperature decreases 1°C for every 220 m increase in altitude.
	Storage temperature	-40°C to +70°C	-40°C to +70°C
	Relative humidity	5%-95% (non-condensing)	5%-95% (non-condensing)
	Operating altitude	5000 m	5000 m

Item		S6720-30L-HI-24S	S6720-50L-HI-48S
	Noise under normal temperature (sound power)	65 dB(A)	65 dB(A)
	Noise under high temperature (sound power)	88 dB(A)	88 dB(A)
	Noise under normal temperature (sound pressure)	52 dB(A)	52 dB(A)
	Surge protection specification (power port)	<ul style="list-style-type: none"> AC power port: ± 6 kV in differential or common mode DC power port: ± 1 kV in differential mode; ± 2 kV in common mode 	<ul style="list-style-type: none"> AC power port: ± 6 kV in differential or common mode DC power port: ± 1 kV in differential mode; ± 2 kV in common mode
Reliability	MTBF (year) ²	61.42	54.65
	MTTR (hour)	2	2
	Availability	> 0.99999	> 0.99999
Certification		<ul style="list-style-type: none"> EMC certification Safety certification Manufacturing certification <p>NOTE For details about certifications, see the section Safety and Regulatory Compliance.</p>	<ul style="list-style-type: none"> EMC certification Safety certification Manufacturing certification <p>NOTE For details about certifications, see the section Safety and Regulatory Compliance.</p>

 **NOTE**

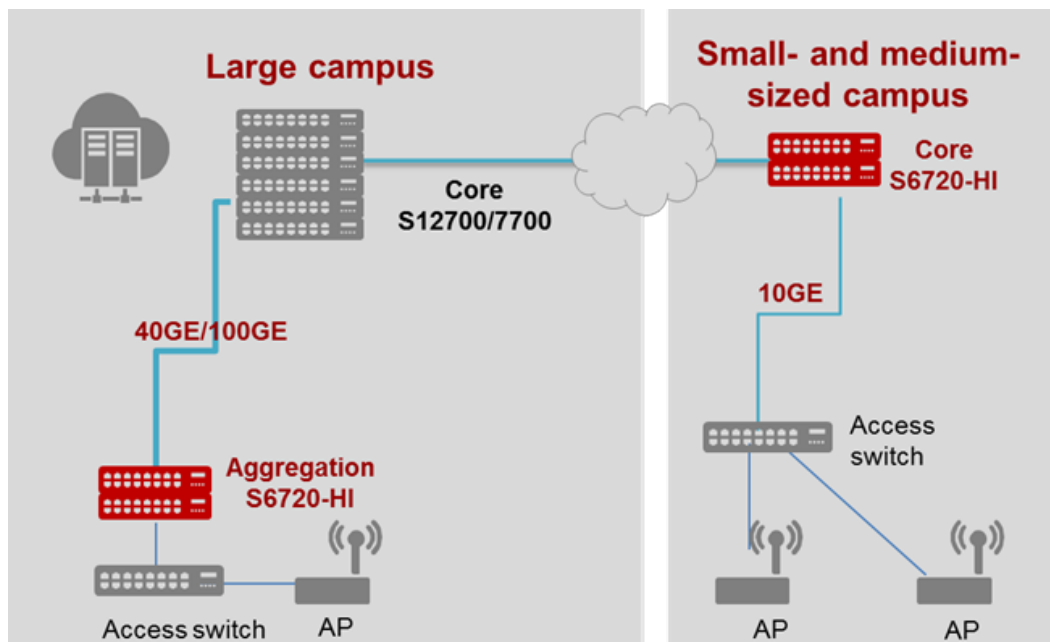
1: The power consumption under different load conditions is calculated according to the ATIS standard. Additionally, the EEE function is enabled and there is no PoE power output.

2: The reliability parameter values are calculated based on the typical configuration of the device. The parameter values vary according to the modules configured by the customer.

Networking and Applications

Enterprise Campus Networks

Huawei S6720-HI is the first fixed agile switch with 10GE downlink and 40GE/100GE uplink ports. It supports in-depth wired and wireless convergence and unified management on devices, users, and services. The S6720-HI can be used as the core device in an enterprise branch network or a small- or middle-sized campus network, or as the aggregation device in a large-sized campus network. The switch helps achieve a manageable and highly reliable enterprise campus network with scalable services.



Product Accessories

Optical Modules and Fibers

10GE SFP+ ports support optical modules and cables

- GE optical module
- GE-CWDM optical module
- GE-DWDM optical module
- GE copper module (100M/1000M auto-sensing)
- 10GE SFP+ optical module (OSXD22N00 not supported)
- 10GE-CWDM optical module
- 10GE-DWDM optical module
- 1 m, 3 m, 5 m, and 10 m SFP+ high-speed copper cables
- 3 m and 10 m SFP+ AOC cables
- 0.5 m and 1.5 m SFP+ dedicated stack copper cables (the last 16 ports are supported, used for zero-configuration stacking)

40GE QSFP+ ports support optical modules and cables

- QSFP+ optical module
- 1 m, 3 m, and 5 m QSFP+ to QSFP+ high-speed copper cables
- 10 m QSFP+ to QSFP+ AOC cable

100GE/40GE QSFP28 ports support optical modules and cables

- QSFP+ optical module
- QSFP28 optical module
- 1 m, 3 m, and 5 m QSFP+ to QSFP+ high-speed copper cables
- 10 m QSFP+ to QSFP+ AOC cable
- 1 m, 3 m, and 5 m QSFP28 to QSFP28 high-speed copper cables
- 10 m QSFP28 to QSFP28 AOC cable

NOTE

- A 40GE QSFP+ optical port cannot be split into four 10GE ports.
- A QSFP28 optical port cannot be split into four 10GE ports. The default rate is 100 Gbit/s.

The fibers and optical modules supported by Huawei switches are periodically updated. For the latest information, visit <http://support.huawei.com/enterprise/en/doc/EDOC1000013597?section=j07w&topicName=pluggable-modules-for-interfaces> or contact your local Huawei sales office.

Stack Cables

The S6720-HI switches support service port stacking. The applicable stack cables are as follows:

Stack cable types and connectors applicable to the S6720-HI series

Port Supporting Stacking	Stack Cable	Rate of a Single Port	Remarks
10GE ports on the front panel	<ul style="list-style-type: none">• 1 m, 3 m, and 5 m SFP+ passive high-speed copper cables• 10 m SFP+ active high-speed copper cables• 3 m and 10 m AOC cables• 10GE SFP+ optical module and optical fiber• 0.5 m and 1.5 m SFP+ dedicated stack cable	10 Gbit/s	<p>Two types of ports on an S6720-HI can be configured as stack member ports, but each logical stack port contains only the same type of stack member ports.</p> <ul style="list-style-type: none">• When 10GE ports on the front panel are used as stack ports, a switch supports a maximum of two logical stack ports, and each logical stack port supports at least one stack member port and at most eight stack member ports. A switch supports a maximum of 16 stack member ports.
40GE ports on the front panel	<ul style="list-style-type: none">• 1 m, 3 m, and 5 m QSFP+ passive high-speed copper cables• QSFP+ optical module (QSFP-40G-SR-BD not supported) and optical fiber	40 Gbit/s	<ul style="list-style-type: none">• When 40GE ports on the front panel are used as stack ports, a switch supports a maximum of two logical stack ports, and each logical stack port supports at least one stack member port and at most six stack member ports. Each switch can use a maximum of six service ports as stack member ports.
100GE ports on the front panel	<ul style="list-style-type: none">• 1 m, 3 m, and 5 m QSFP28 high-speed copper cables• 10 m QSFP28 AOC cables• QSFP28 optical module and optical fiber	100Gbit/s	<ul style="list-style-type: none">• When 100GE ports on the front panel are used as stack ports, a switch supports a maximum of two logical stack ports, and each logical stack port supports a maximum of two stack member ports. Each switch can use a maximum of two service ports as stack member ports. <p>Only the last 16 10GE ports on the front panel can be used to set up a stack using dedicated</p>

Port Supporting Stacking	Stack Cable	Rate of a Single Port	Remarks
			<p>stack cables.</p> <ul style="list-style-type: none"> When 100GE ports are used as stack member ports and are connected using 1 m, 3 m, and 5 m QSFP+ passive cables or QSFP+ optical modules (QSFP-40G-SR-BD not supported) and fibers, you can run the stack port speed command to reduce their working speed from 100 Gbit/s to 40 Gbit/s. After their working speed is reduced to 40 Gbit/s, switches using these ports can set up a stack with switches using ports working at 40 Gbit/s and cannot set up a stack with switches using ports working at 100 Gbit/s.

Safety and Regulatory Compliance

The following table lists the safety and regulatory compliance of the S6720-HI.

Safety and regulatory compliance of the S6720-HI series

Certification Category	Description
Safety	<ul style="list-style-type: none"> IEC 60950-1 and all country deviations EN 60950-1 UL 60950-1 CAN/CSA 22.2 No.60950-1 GB 4943
Electromagnetic Compatibility (EMC)	<ul style="list-style-type: none"> EMI FCC CFR47 Part 15 Class A EN55022 Class A CISPR 22 Class A EN61000-3-2/IEC-1000-3-2, Power line harmonics EN61000-4-3/IEC-1000-4-3, Radiated immunity EN61000-4-2/IEC-1000-4-2, ESD EN61000-4-4/IEC-1000-4-4, EFT EN61000-4-5/IEC-1000-4-5, Surge Signal Port EN61000-4-6/IEC-1000-4-6, Low frequency conducted immunity EN61000-4-11/IEC-1000-4-11, Voltage dips and sags EN61000-4-29/IEC61000-4-29, Voltage dips and sags EMC Directive 89/336/EEC EMC Directive 2004/108/EC

Certification Category	Description
	<ul style="list-style-type: none"> • VCCI V-3 Class A • ICES-003 Class A • AS/NZS CISPR 22 Class A • CNS 13438 Class A • GB9254 Class A

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

MIB and Standards Compliance

Supported MIBs

The following table lists the MIBs supported by the S6720-HI.

MIBs supported by the S6720-HI series

Category	MIB
Public MIB	<ul style="list-style-type: none"> • BRIDGE-MIB • DISMAN-NSLOOKUP-MIB • DISMAN-PING-MIB • DISMAN-TRACEROUTE-MIB • ENTITY-MIB • EtherLike-MIB • IF-MIB • IP-FORWARD-MIB • IPv6-MIB • LAG-MIB • LLDP-EXT-DOT1-MIB • LLDP-EXT-DOT3-MIB • LLDP-MIB • NOTIFICATION-LOG-MIB • NQA-MIB • OSPF-TRAP-MIB • P-BRIDGE-MIB • Q-BRIDGE-MIB

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

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

NOTE

For more information about MIBs supported by the S6720-HI series, visit:
<https://support.huawei.com/enterprise/en/switches/s6700-pid-6691593?category=reference-guides>

Standards Compliance

The following table lists the standards that the S6720-HI complies with.

Standards compliance list of the S6720-HI series

Standard Organization	Standard or Protocol
IETF	<ul style="list-style-type: none">• RFC 768 User Datagram Protocol (UDP)• RFC 792 Internet Control Message Protocol (ICMP)• RFC 793 Transmission Control Protocol (TCP)• RFC 826 Ethernet Address Resolution Protocol (ARP)• RFC 854 Telnet Protocol Specification• RFC 951 Bootstrap Protocol (BOOTP)• RFC 959 File Transfer Protocol (FTP)• RFC 1058 Routing Information Protocol (RIP)• RFC 1112 Host extensions for IP multicasting• RFC 1157 A Simple Network Management Protocol (SNMP)• RFC 1256 ICMP Router Discovery• RFC 1305 Network Time Protocol Version 3 (NTP)• RFC 1349 Internet Protocol (IP)• RFC 1493 Definitions of Managed Objects for Bridges• RFC 1542 Clarifications and Extensions for the Bootstrap Protocol• RFC 1643 Ethernet Interface MIB• RFC 1757 Remote Network Monitoring (RMON)• 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
	<ul style="list-style-type: none"> • RFC 4271 A Border Gateway Protocol 4 (BGP-4) • RFC 4760 Multiprotocol Extensions for BGP-4 • draft-grant-tacacs-02 TACACS+ • RFC 6241 Network Configuration Protocol (NETCONF) • RFC 6020 YANG - A Data Modeling Language for the Network Configuration Protocol (NETCONF)
IEEE	<ul style="list-style-type: none"> • IEEE 802.1D Media Access Control (MAC) Bridges • IEEE 802.1p Traffic Class Expediting and Dynamic Multicast Filtering • IEEE 802.1Q Virtual Bridged Local Area Networks • IEEE 802.1ad Provider Bridges • IEEE 802.2 Logical Link Control • IEEE Std 802.3 CSMA/CD • IEEE Std 802.3ab 1000BASE-T specification • IEEE Std 802.3ad Aggregation of Multiple Link Segments • IEEE Std 802.3ae 10GE WEN/LAN Standard • IEEE Std 802.3x Full Duplex and flow control • IEEE Std 802.3z Gigabit Ethernet Standard • IEEE802.1ax/IEEE802.3ad Link Aggregation • IEEE 802.3ah Ethernet in the First Mile. • IEEE 802.1ag Connectivity Fault Management • IEEE 802.1ab Link Layer Discovery Protocol • IEEE 802.1D Spanning Tree Protocol • IEEE 802.1w Rapid Spanning Tree Protocol • IEEE 802.1s Multiple Spanning Tree Protocol • IEEE802.1x Port based network access control protocol • IEEE802.3af DTE Power via MIDI • IEEE802.3at DTE Power via the MDI Enhancements
ITU	<ul style="list-style-type: none"> • ITU SG13 Y.17ethoam • ITU SG13 QoS control Ethernet-Based IP Access • ITU-T Y.1731 ETH OAM performance monitor
ISO	<ul style="list-style-type: none"> • ISO 10589 IS-IS Routing Protocol
MEF	<ul style="list-style-type: none"> • MEF 2 Requirements and Framework for Ethernet Service Protection • MEF 9 Abstract Test Suite for Ethernet Services at the UNI • MEF 10.2 Ethernet Services Attributes Phase 2 • MEF 11 UNI Requirements and Framework • MEF 13 UNI Type 1 Implementation Agreement • MEF 15 Requirements for Management of Metro Ethernet Phase 1 Network Elements • MEF 17 Service OAM Framework and Requirements • MEF 20 UNI Type 2 Implementation Agreement • MEF 23 Class of Service Phase 1 Implementation Agreement • Xmodem XMODEM/YMODEM Protocol Reference

 **NOTE**

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

Ordering Information

The following table lists ordering information of the S6720-HI series switches.

Ordering information of the S6720-HI series

Item	Product Description
1	S6720-50L-HI-48S (48 x 10 Gig SFP+, 6 x 40 Gig QSFP+ or 44 x 10 Gig SFP+, 4 x 40 Gig QSFP+, 2 x 100 Gig QSFP28; without power module)
2	S6720-30L-HI-24S (24 x 10 Gig SFP+, 4 x 40 Gig QSFP+, 2 x 100 Gig QSFP28; without power module)
3	Fan box (B, FAN panel side exhaust)
4	600 W AC power module
5	350 W DC power module

More Information


For more information about the Huawei Campus Switches, visit <http://e.huawei.com> or contact us in the following ways:

- Global service hotline: <http://e.huawei.com/en/service-hotline>
- Logging in to the Huawei Enterprise technical support website: <http://support.huawei.com/enterprise/>
- Sending an email to the customer service mailbox: support_e@huawei.com

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