H3C S5560X-EI Series Converged Gigabit Switches

Product overview

H3C S5560X-EI is a series of intelligent Layer 3 managed GE switches with outstanding performance, high port density, and ease of installation. It offers the following benefits:

- Industry-leading high-performance hardware architecture with H3C's state-of-the-art Comware 7 operating system.

- Seamless wired and wireless integration on a unified switching platform. The license-based wireless access controller functionality enables wired and wireless local forwarding at the access layer, eliminates the bandwidth bottlenecks typical of a wireless controller, expands wireless deployment, and saves TCO.

- Reliable hardware design with modular dual power supply and dual FAN design.

- Embedded SmartMC delivers the easiest and simplest network operation and management solution.

- Advanced free of charge enterprise features and functions like layered security, VxLAN, IRF and Macsec

- High-density 10/100/1000Base-T autosensing Ethernet ports or 10GE SFP + fiber ports on board

- One expansion slot,up to 9 optional interface cards that provide high density giga, 10GE, 25GE, 40GE and Multi-Giga access.

As an access device on enterprise networks, the switch can provide GE connections for desktop applications. It can also be used as a core device on small- and medium-sized enterprise networks. On MAN or industrial networks, it provides GE access for users and transmits the aggregated traffic from downstream switches to core switches.

The S5560X-EI switch series has the following models:

- S5560X-30C-EI—Provides 24 × 10/100/1000BASE-T ports (including 8 × combo interfaces), 4 × 10G/1G BASE-X SFP+ ports, 1 × expansion slot, 2 × fan tray slots, and 2 × power module slots.

- S5560X-54C-EI—Provides 48 × 10/100/1000BASE-T ports, 4 × 10G/1G BASE-X SFP+ ports, 1 × expansion slot, 2 × fan tray slots, and 2 × power module slots.

- S5560X-30F-EI—Provides 24 × SFP ports (including 8 × combo interfaces), 4 × 10G/1G BASE-X SFP+ ports, 1 × expansion slot, 2 × fan tray slots, and 2 × power module slots.

- S5560X-54F-EI—Provides 48 × SFP ports, 4 × 10G/1G BASE-X SFP+ ports, 1 × expansion slot, 2 × fan tray slots, and 2 × power module slots.

- S5560X-30C-PWR-EI—Provides 24 × 10/100/1000BASE-T ports, 4 × 10G/1G BASE-X SFP+ ports, 1 × expansion slot, 2 × fan tray slots, and 2 × power module slots.

- S5560X-54C-PWR-EI—Provides 48 × 10/100/1000BASE-T ports, 4 × 10G/1G BASE-X SFP+ ports, 1 × expansion slot, 2 × fan tray slots, and 2 × power module slots.

- S5560X-34S-EI—Provides 28 × 10/100/1000BASE-T ports (including 4 × combo interfaces), 4 × 10G/1G BASE-X SFP+ ports, and 2 × 40G QSFP+ ports, fixed AC&DC power supply

- S5560X-54S-EI—Provides 48 × 10/100/1000BASE-T ports, 4 × 10G/1G BASE-X SFP+ ports, and 2 × 40G QSFP+ ports, fixed AC&DC power supply

S5560X-30C-EI

S5560X-54C-EI

S5560X-30F-EI

S5560X-54F-EI

S5560X-30C-PWR-EI

S5560X-54C-PWR-EI

S5560X-34S-EI

S5560X-54S-EI

Features and benefits

High scalability and high port density

S5560X-EI seriesprovide 24 or 48 Giga and 4 fixed 10GE ports onboard with one expansion slot, supporting up to 9 types of interface cards like 2-port 10GBaseT / SFP+; 8-port 10G SFP+ card; 2-port 40G QSFP+ card and Multi-giga ports. The switch supports up to 12 10G ports, 2*25G or 2*40G ports. The scaling flexibility and the high port density satisfy the requirements for hybrid configuration of copper ports and fiber ports at the distribution layer in large sized networks or at the core layer in SMB sized networks.

VXLAN (Virtual eXtensible LAN) technology

Virtual eXtensible LAN (VXLAN) is a MAC-in-UDP technology that provides Layer 2 connectivity between distant network sites across an IP network. VXLAN enables long-distance virtual machine and data mobility and is typically used in data centers and the access layer of campus networks for multitenant services. The H3C implementation of VXLAN supports automatic VXLAN tunnel establishment with EVPN.

Open Application Architecture

In H3C open application architecture (OAA), the switch can accommodate high-performance OAP modules to offer dedicated services such as firewall, IPS, or load balancing in addition to conventional forwarding services. By installing OAP modules, the customers can use the switch as a multiservice device without having to buy separate service appliances, such as a firewall device.

Embedded Access Controller

H3C S5560X-EI implements the WLAN function by installing an AC feature pack on the main control unit, thereby implementing both the wired function and the WLAN function on a single device. Embedded AC is a low-cost WLAN solution, save overall investment, improve forwarding capacity, realized a true unified wired and wireless solution in Campus. Max.256 AP supported on one single switch.

High-performance IPv4/IPv6 service capabilities

The S5560X-EI switch series comes with IPv4/IPv6 dual-stack platform which provides sophisticated IPv4/IPv6 solutions by supporting multiple tunnels, IPv4/IPv6 Layer 3 routing protocols, multicasting, and policy-based routing. The S5560X-EI switch series is a mature commercial IPv6 product that has passed the IPv6 network access certification of the Chinese Ministry of Industry and Information Technology and the IPv6 Ready Phase II certification.

Intelligent Resilient Framework 2 (IRF2)

H3C S5560X-EI switch series is pre-built with Intelligent Resilient Framework 2 (IRF2). IRF2 provides the following benefits:

- High scalability: With IRF2, plug-n-play device aggregation can be achieved by adding one or more switches into the IRF2 stack and enabling IRF2 stacking on the new device. New devices can be managed with a single IP, and upgraded at the same time to reduce network expansion cost.

- High reliability: The IRF2 patented 1:N backup technology allows each slave device in the IRF2 stack to serve as the backup of the master, creating control and data link redundancy, as well as uninterrupted layer-3 forwarding. This improves the reliability, avoids unplanned business downtime and serves to improve overall performance. When the master device fails, traffic remains uninterrupted.

- Load balancing: IRF2 supports cross-device link aggregation, upstream and downstream can be connected to more than one physical link, which creates another layer of network redundancy and boosts the network resource utilization.

- Availability: H3C Implements IRF2 through standard Forty Gigabit Ethernet (40GE) or Ten Gigabit Ethernet (10GE)

ports which allocates bandwidth for business and application access and reasonably splits local traffic and upstream traffic. IRF2 rules   not only able to obeyed within and across the rack, but also across the LAN

Intelligent Resilient Framework 3.1 (IRF 3.1)

Intelligent Resilient Framework 3.1 technology (IRF 3.1) is implemented based on IEEE 802.1BR. It integrates lower-layer devices (PEXs) such as access devices with a higher-layer IRF fabric (parent fabric) to provide high-density, low-cost connectivity at the access layer. You can manage and configure the PEXs from the parent fabric as if they were interface modules on the parent fabric.

IRF 3.1 brings the following benefits:

- Single point of management—An IRF 3.1 system is accessible at a single IP address on the network. You can use this IP address to log in through any network port to configure and manage all the devices in the system.

- Unified security policy—The whole IRF 3.1 system enforces the same security policy, avoiding the policy conflicts that typically occur when the network devices are configured one by one.

- Simplified network topology—IRF 3.1 combines the access and distribution layers, streamlining the conventional three-layer network model to two layers and making cabling easier.

- Simplified service deployments—An IRF 3.1 system is a single node for IP services, routing protocols, VLANs, and other services. You can deploy services on it in the same way you work with a single device. This significantly reduces service deployment complexities and the risks of inadvertent deployment errors when numerous devices are involved.

- Easy scalability and maintenance—IRF 3.1 enables plug-and-play of PEXs without network topology changes and automatically pushes configuration and software from the parent fabric to the PEXs. IRF 3.1 also reduces the numerous points of failure into one, improving the efficiency in troubleshooting.

Software-defined networking

Software-defined networking (SDN) is an innovative network architecture that separates the control plane from the forwarding plane, typically by using OpenFlow. SDN significantly simplifies network management, reduces maintenance complexity and cost, enables flexible traffic management, and offers a good platform for core network and application innovations.

The S5560X-EI network switch series supports a large network flow table. Combined with H3C SDN controller, it can easily implement a two-layer network architecture and quickly add functions in existing network in order to drastically reduces network management complexity while substantially lowers network maintenance cost.

Comprehensive security control policies

Endpoint Admission Defense (EAD), in conjunction with the backend system, integrates endpoint security (including anti-virus and patching) and network security (including network access control and access right control) into an interactive security system. By checking, isolating, repairing, managing, and monitoring the endpoints, this system turns reactive single-point defense to proactive, all-round defense, and dispersed management to centralized policy management. This system enhances the overall network protection against numerous security threats and improves the responsiveness to new threats.

The switch supports unified MAC address authentication, 802.1x authentication, and portal authentication; dynamic or static binding of user identifiers such as user account, IP address, MAC address, VLAN, and port number; and dynamic application of user profiles or policies (such as VLAN, QoS, and ACL) on users. Using the switch in conjunction with H3C IMC, you can manage and monitor online users in real time and take prompt action on illegitimate behaviors.

The switch offers a large number of inbound and outbound ACLs and VLAN-based ACL assignment.

The switch supports Unicast Reverse Path Forwarding (uRPF), which protects a network against source spoofing attacks, preventing DoS and DDoS attacks.

MACsec

MACsec is an ideal hop-by-hop link-layer security protocol for Ethernet networks, which are typically insecure. It provides the following services:

- Data encryption—Encrypts data over the Ethernet link to protect data against security issues such as eavesdropping.

- Antireplay—Prevents packets from being intercepted and modified en route to protect the network against unauthorized access.

- Tampering protection—Prevents packet tampering to protect data integrity.

MACsec supports the following deployments:

- Client-oriented—Protects data transmission over the link between the client and its access device.

- Device-oriented mode—Protects data transmission over the link between two peering devices.

The switch can cooperate with H3C iNode client and core switches such as S10500 and S7500E to provide a complete MACsec solution.

High availability

The switch offers the following hardware high availability features:

- 1+1 power module redundancy and 1+1 fan tray redundancy.

- Supports multiple AC and DC power module options.

- Automatically monitors power module and fan tray status, and generates alarms when a power or temperature event occurs.

- Adjusts fan speed based on the change in temperature.

In addition to hardware redundancy, the switch provides a variety of node and link redundancy and protection mechanisms, including:

- Ethernet link aggregation, including LACP.

- Spanning tree protocols, including STP, RSTP and MSTP.

- Smart Link, which protects faster link switchover for dual uplink network.

- Rapid Ring Protection Protocol (RRPP).

- IRF 2 ring topology in conjunction with multichassis link aggregation.

Abundant QoS features

The switch offers abundant QoS features, including:

- Packet filtering based on packet header fields from Layer 2 through Layer 4, including source MAC, destination MAC, source IP, destination IP, TCP/UDP port number, protocol type, and VLAN.

- Flexible queuing and scheduling algorithms configured on a per-port or per-queue basis, including strict priority (SP), weighted round robin (WRR), SP+WRR, weighted fair queuing (WFQ), and SP+WFQ.

- Committed access rate (CAR) with the minimum granularity at 64 kbps.

- Port mirroring in both outbound and inbound directions for network monitoring and troubleshooting.

Outstanding management capacity

The S5560X-EI switch series supports abundant management ports, such as the console port, mini-USB and the out-of-band network management port. It supports the Simple Network Management Protocol (SNMP) v1/v2/v3, Open View, IMC, CLI, Web-based NMS and Telnet allowing easy device management. It also supports SSH2.0 to provide better protection management.

The S5560X-EI switch supports SPAN/RSPAN/ERSPAN mirroring, and multiple mirroring ports so that network traffic can be analyzed to carry out corresponding management and maintenance measures and traffic of network services and applications is visible. The S5500X-EI switch provides network stream analysis reports, which help users to promptly optimize the network structure and adjust resource deployment.

Smart Management Center (SmartMC)

SmartMC is H3C's latest offering and innovation that helps small and middle size enterprise network to address management issue and is free of charge, easy to use web management tool. SmartMC is embedded network management tool into the switch, it includes commander switches and other access switches.

SmartMC delivers the following benefits:

- Intelligent operation: once the switch is powered on and SmartMC function is enabled, topology will be created automatically and user can go enhanced web GUI to check the latest status.

- Centralized management: all management can be achieved via commander switch such as centralized configuration backup, and software version management, increasing working efficiency.

- One key device replacement: in case of one switch failure, the new added same type switch can download the same configuration and work as old switch immediately

Specifications

Item	S5560X-30C-EI	S5560X-54C-EI	S5560X-30F-EI	S5560X-54F-EI
Switching capacity	598Gbps	598Gbps	598Gbps	598Gbps

Item	S5560X-30C-EI	S5560X-54C-EI	S5560X-30F-EI	S5560X-54F-EI
Packet forwarding rate	216 Mpps	252 Mpps	216 Mpps	252 Mpps
Dimensions (H × W × D)	43.6 × 440 × 360 mm (1.72 × 17.32 × 14.17 in)	43.6 × 440 × 360 mm (1.72 × 17.32 × 14.17 in)	43.6 × 440 × 360 mm (1.72 × 17.32 × 14.17 in)	43.6 × 440 × 360 mm (1.72 × 17.32 × 14.17 in)
Weight	≤ 6.7 kg (14.77 lb)	≤ 7.0 kg (15.43 lb)	≤ 6.6 kg (14.55 lb)	≤ 6.7 kg (14.77 lb)
Flash/SDRAM	512MB/2GB			
Management Ethernet ports	1			
Console ports	1 × RJ-45 console port 1 × Micro-USB console port Only the Micro-USB console port is available when you connect both ports.			
Service ports	24 × 10/100/1000Base-T autosensing Ethernet ports (including 8 combo interfaces) 4 × 10G SFP+ ports	48 × 10/100/1000Base-T autosensing Ethernet ports 4 × 10G SFP+ ports	24 × SFP ports (including 8 combo interfaces) 4 × 10G SFP+ ports	48 × SFP ports 4 × 10G SFP+ ports
Expansion slots	1			
Compatible interface module	2-port 40GE QSFP+ interface module 2-port 10G SFP+ interface module 2-port 10G electrical interface module 4-Port 10/100/1000BASE-T Ethernet,6-Port SFP(2-Port Combo) Interface Module 8-port 10G SFP+ interface module 8-Port 10G SFP Plus with MACSec Interface Module			
AC input voltage	PSR150-A1&PSR150-A2: Rated: 100 VAC to 240 VAC @ 50 Hz/60 Hz Max: 90 VAC to 264 VAC @ 47 Hz to 63 Hz			
DC input voltage	PSR150-D1: Rated: –48 VDC to –60 VDC Max: –36 VDC to –72 VDC You can use a –48 VDC power source in the equipment room or an H3C RPS (RPS800-A or RPS1600-A).			

Item	S5560X-30C-EI	S5560X-54C-EI	S5560X-30F-EI	S5560X-54F-EI
Min. power consumption	Single AC input: 24 W Dual AC inputs: 29 W Single DC input: 24 W Dual DC inputs: 28 W	Single AC input: 27 W Dual AC inputs: 31 W Single DC input: 24 W Dual DC inputs: 29 W	Single AC input: 24 W Dual AC inputs: 29 W Single DC input: 24 W Dual DC inputs: 30 W	Single AC input: 30 W Dual AC inputs: 37 W Single DC input: 30 W Dual DC inputs: 36 W
Max. power consumption	Single AC input: 87 W Dual AC inputs: 91 W Single DC input: 88 W Dual DC inputs: 95 W	Single AC input: 88 W Dual AC inputs: 93 W Single DC input: 89 W Dual DC inputs: 96 W	Single AC input: 112 W Dual AC inputs: 116 W Single DC input: 113 W Dual DC inputs: 122 W	Single AC input: 130 W Dual AC inputs: 134 W Single DC input: 132 W Dual DC inputs: 140 W
Operating temperature	0ºC to 45ºC (32°F to 113°F)			
Operating humidity	5% RH to 95% RH, non-condensing			
SDN/OpenFlow	OpenFlow 1.3 Multiple controllers (equal/master/slave controller role) Concurrent processing of multiple flow tables Group table Meter			
VXLAN	VXLAN Layer 2 switching VXLAN routing switching VXLAN gateway Centralized VXLAN control through OpenFlow+Netconf			
Link aggregation	1G/10G/40G port aggregation Static aggregation Dynamic aggregation Multichassis link aggregation			
Port features	802.3x flow control (full-duplex) Storm suppression based on port bandwidth percentage Storm suppression based on PPS Storm suppression based on BPS			
Jumbo frame	A maximum of 10000 bytes			

Item	S5560X-30C-EI	S5560X-54C-EI	S5560X-30F-EI	S5560X-54F-EI
MAC address table	64K MAC address entries Blackhole MAC address MAC learning limit			
VLAN	Port-based VLAN MAC-based VLAN Protocol-based VLAN IP subnet based VLAN QinQ and flexible QinQ VLAN mapping Voice VLAN MVRP			
Loop-free redundant Layer 2 topology	STP/RSTP/MSTP Smart Link RRPP G.8032 Ethernet ring protection switching (ERPS)			
DHCP	DHCP client DHCP snooping DHCP relay DHCP server DHCP snooping Option 82/DHCP relay Option 82			
IRF2	IRF2 Distributed device management, distributed link aggregation, and distributed resilient routing Stacking through standard Ethernet interfaces Local device stacking and remote device stacking			
IP routing	32K IPV4 routing entries Static routing RIPv1/v2 and RIPng OSPFv1/v2/v3 BGP and BGP4+ for IPv6 Equal-cost multi-path routing (ECMP) and policy routing VRRP/VRRPv3			
IPv6	Neighbor Discovery (ND) PMTU			

Item	S5560X-30C-EI	S5560X-54C-EI	S5560X-30F-EI	S5560X-54F-EI
	IPv6-Ping, IPv6-Tracert, IPv6-Telnet, and IPv6-TFTP			
	Manual tunnel			
	6to4 tunnel			
	ISATAP tunnel			
	GRE tunnel			
Multicast	IGMP Snooping v1/v2/v3 and MLD Snooping v1/v2			
	PIM Snooping			
	MLD Proxy			
	Multicast VLAN			
	IGMP v1/v2/v3 and MLD v1/v2			
	PIM-DM, PIM-SM, and PIM-SSM			
	MSDP and MSDP for IPv6			
	MBGP and MBGP for IPv6			
Mirroring	Flow mirroring			
	N:4 port mirroring			
	Local port mirroring and remote port mirroring			
QoS/ACL	Layer 2 to Layer 4 packet filtering			
	Traffic classification based on source MAC, destination MAC, source IP, destination IP, TCP/UDP port, and VLAN			
	Time range-based ACL			
	Bi-directional ACLs (inbound and outbound)			
	VLAN-based ACL issuing			
	Rate limit for receiving and transmitting packets (a minimum CIR of 8 Kbps)			
	Packet redirection			
	802.1p priority and DSCP priority			
	Committed Access Rate (CAR)			
	Flexible queue scheduling algorithms based on both port and queue, including SP, WRR, and SP+WRR			
	WRED			
Security	Hierarchical user management and password protection			
	802.1X authentication and centralized MAC address authentication			
	Guest VLAN			
	RADIUS authentication			
	SSH 2.0			

Item	S5560X-30C-EI	S5560X-54C-EI	S5560X-30F-EI	S5560X-54F-EI
	Port isolation			
	Port security			
	EAD			
	DHCP snooping			
	Dynamic ARP detection			
	BPDU guard and root guard			
	BPDU Blocking and Root Guard			
	Link Detection (UDLD)			
	Digital Diagnostic Monitor (DDM)			
	Time Domain Reflectometry (TDR)			
	uRPF			
	IP/Port/MAC binding			
	Plaintext authentication and MD5 authentication for OSPF and RIPv2 packets			
	Public Key Infrastructure (PKI)			
Management and maintenance	Loading and upgrading through XMODEM/FTP/TFTP			
	Configuration through CLI, Telnet, and console port			
	SNMP v1/v2/v3			
	Web network management			
	Remote Monitoring (RMON) alarm, event, and history recording			
	IMC network management system			
	System log, alarming based on severity, debugging information output			
	NTP			
	Power, fan, and temperature alarming			
	Ping and Tracert			
	Virtual Cable Test (VCT)			
	Device Link Detection Protocol (DLDP)			
	LLDP			
	Loopback detection			
Power saving	Automatic port power-down			
	Scheduled port power-down (schedule job)			
EMC	FCC Part 15 Subpart B CLASS A			
	ICES-003 CLASS A			
	VCCI CLASS A			
	CISPR 32 CLASS A			

Item	S5560X-30C-EI	S5560X-54C-EI	S5560X-30F-EI	S5560X-54F-EI
	EN 55032 CLASS A			
	AS/NZS CISPR32 CLASS A			
	CISPR 24			
	EN 55024			
	EN 61000-3-2			
	EN 61000-3-3			
	ETSI EN 300 386			
	GB/T 9254			
	YD/T 993			
Safety	UL 60950-1			
	CAN/CSA C22.2 No 60950-1			
	IEC 60950-1			
	EN 60950-1			
	AS/NZS 60950-1			
	FDA 21 CFR Subchapter J			
	GB 4943.1			

Specifications (continued)

Item	S5560X-30C-PWR-EI	S5560X-54C-PWR-EI	S5560X-34S-EI	S5560X-54S-EI
Switching capacity	598Gbps	598Gbps	598Gbps	598Gbps
Packet forwarding rate	216 Mpps	252 Mpps	216 Mpps	252 Mpps
Dimensions (H × W × D)	43.6 × 440 × 460 mm (1.72 × 17.32 × 18.11 in)	43.6 × 440 × 460 mm (1.72 × 17.32 × 18.11 in)	43.6 × 440 × 260 mm (1.72 × 17.32 × 10.24 in)	43.6 × 440 × 260 mm (1.72 × 17.32 × 10.24 in)
Weight	≤ 9.2 kg (20.28 lb)	≤ 9.6 kg (21.16 lb)	≤ 3.6 kg (7.94 lb)	≤ 3.9 kg (8.60 lb)
Flash/SDRAM	512MB/2GB			
Management Ethernet ports	1			
Console ports	1 × RJ-45 console port 1 × Micro-USB console port Only the Micro-USB console port is available when you connect both ports.			

Item	S5560X-30C-PWR-EI	S5560X-54C-PWR-EI	S5560X-34S-EI	S5560X-54S-EI
Service ports	24 × 10/100/1000Base-T autosensing Ethernet ports 4 × 10G SFP+ ports	48 × 10/100/1000Base-T autosensing Ethernet ports 4 × 10G SFP+ ports	28 × 10/100/1000Base-T autosensing Ethernet ports (including 4 combo interfaces) 4 × 10G SFP+ ports 2 × 40G QSFP+ ports	48 × 10/100/1000Base-T autosensing Ethernet ports 4 × 10G SFP+ ports 2 × 40G QSFP+ ports
Expansion slots	1	1	N/A	N/A
Compatible interface modules	2-port 40GE QSFP+ interface module 2-port 25G SFP28 interface module 2-port 10G SFP+ interface module 2-port 10G electrical interface module 4-Port 10/100/1000BASE-T Ethernet,6-Port SFP(2-Port Combo) Interface Module 8-port 10G SFP+ interface module 8-Port 10G SFP Plus with MACSec Interface Module 8-Port 1/2.5/5G BASE-T Ethernet Copper Interface Module 8-Port 1/2.5/5/10G BASE-T Ethernet Copper Interface Module		N/A	N/A
MAC address table	64000 entries			
AC input voltage	PSR360-56A/PSR720-56A: Rated: 100 VAC to 240 VAC @ 50 Hz/60 Hz Max: 90 VAC to 264 VAC @ 47 Hz to 63 Hz PSR1110-56A: Rated: 115 VAC to 240 VAC @ 50 Hz/60 Hz Max: 102.5 VAC to 264 VAC @ 47 Hz to 63 Hz		Rated: 100 VAC to 240 VAC @ 50 Hz/60 Hz Max: 90 VAC to 264 VAC @ 47 Hz to 63 Hz	
DC input voltage	PSR560-56D: Rated: –48 VDC to –60 VDC Max: –36 VDC to –72 VDC You can use a –48 VDC power source in the equipment room or an H3C RPS (RPS1600-A).		Rated: –48 VDC to –60 VDC Max: –36 VDC to –72 VDC You can use a –48 VDC power source in the equipment room or an H3C RPS (RPS800-A or RPS1600-A).	
Min. power	Single AC input: 31 W	Single AC input: 33 W	Single AC input: 19 W	Single AC input: 22 W

Item	S5560X-30C-PWR-EI	S5560X-54C-PWR-EI	S5560X-34S-EI	S5560X-54S-EI
consumption	Dual AC inputs: 31 W Single DC input: 43 W Dual DC inputs: 60 W	Dual AC inputs: 40 W Single DC input: 48 W Dual DC inputs: 66 W	Single AC input: 19 W	Single AC input: 22 W
Max. power consumption	Single 1110 W AC input: 926 W (including 720 W for PoE) Dual 1110 W AC inputs: 928 W (including 720 W for PoE) Single 560 W DC input: 486 W (including 360 W for PoE) Dual 560 W DC inputs: 876 W (including 720 W for PoE)	Single 1110 W AC input: 1090 W (including 810 W for PoE) Dual 1110 W AC inputs: 1742 W (including 1440 W for PoE) Single 560 W DC input: 502 W (including 360 W for PoE) Dual 560 W DC inputs: 1003 W (including 810 W for PoE)	Single AC input: 56 W Single DC input: 57 W	Single AC input: 66 W Single DC input: 68 W
Operating temperature	0ºC to 45ºC (32°F to 113°F)			
Operating humidity	5% RH to 95% RH, non-condensing			
SDN/OpenFlow	OpenFlow 1.3 Multiple controllers (equal/master/slave controller role) Concurrent processing of multiple flow tables Group table Meter			
VXLAN	VXLAN L2 switching VXLAN L3 routing VXLAN VTEP IS-IS+ENDP distributed control plane MP-BGP+EVPN distributed control plane OpenFlow+Netconf centralized control plane			
Link aggregation	1G/10G/40G port aggregation Static aggregation			

Item	S5560X-30C-PWR-EI	S5560X-54C-PWR-EI	S5560X-34S-EI	S5560X-54S-EI
	Dynamic aggregation			
	Multichassis link aggregation			
Port features	802.3x flow control (full-duplex)			
	Storm suppression based on port bandwidth percentage			
	Storm suppression based on PPS			
	Storm suppression based on BPS			
Jumbo frame	A maximum of 10000 bytes			
MAC address table	Blackhole MAC address			
	MAC learning limit			
VLAN	Port-based VLAN			
	MAC-based VLAN			
	Protocol-based VLAN			
	IP subnet based VLAN			
	QinQ and flexible QinQ			
	VLAN mapping			
	Voice VLAN			
	MVRP			
Loop-free redundant Layer 2 topology	STP/RSTP/MSTP			
	Smart Link			
	RRPP			
	G.8032 Ethernet ring protection switching (ERPS)			
DHCP	DHCP client			
	DHCP snooping			
	DHCP relay			
	DHCP server			
	DHCP snooping Option 82/DHCP relay Option 82			
IRF2	IRF2			
	Distributed device management, distributed link aggregation, and distributed resilient routing			
	Stacking through standard Ethernet interfaces			
	Local device stacking and remote device stacking			
IP routing	Static routing			
	RIPv1/v2 and RIPng			
	OSPFv1/v2/v3			

Item	S5560X-30C-PWR-EI	S5560X-54C-PWR-EI	S5560X-34S-EI	S5560X-54S-EI
	BGP and BGP4+ for IPv6			
	Equal-cost multi-path routing (ECMP) and policy routing			
	VRRP/VRRPv3			
IPv6	Neighbor Discovery (ND)			
	PMTU			
	IPv6-Ping, IPv6-Tracert, IPv6-Telnet, and IPv6-TFTP			
	Manual tunnel			
	6to4 tunnel			
	ISATAP tunnel			
	GRE tunnel			
Multicast	IGMP Snooping v1/v2/v3 and MLD Snooping v1/v2			
	PIM Snooping			
	MLD Proxy			
	Multicast VLAN			
	IGMP v1/v2/v3 and MLD v1/v2			
	PIM-DM, PIM-SM and PIM-SSM			
	MSDP and MSDP for IPv6			
	MBGP and MBGP for IPv6			
Mirroring	Flow mirroring			
	N:4 port mirroring			
	Local port mirroring and remote port mirroring			
	Policy-based Mirroring			
	Traffic Mirroring			
QoS/ACL	Layer 2 to Layer 4 packet filtering			
	Traffic classification based on source MAC, destination MAC, source IP, destination IP, TCP/UDP port, and VLAN			
	Time range-based ACL			
	Bi-directional ACLs (inbound and outbound)			
	VLAN-based ACL issuing			
	Rate limit for receiving and transmitting packets (a minimum CIR of 8 Kbps)			
	Packet redirection			
	802.1p priority and DSCP priority			
	Committed Access Rate (CAR)			
	Flexible queue scheduling algorithms based on both port and queue, including SP, WRR, and			

Item	S5560X-30C-PWR-EI	S5560X-54C-PWR-EI	S5560X-34S-EI	S5560X-54S-EI
	SP+WRR			
	WRED			
Security	Hierarchical user management and password protection			
	802.1X authentication and centralized MAC address authentication			
	Guest VLAN			
	RADIUS authentication			
	SSH 2.0			
	Port isolation			
	Port security			
	EAD			
	DHCP snooping			
	Dynamic ARP detection			
	BPDU guard and root guard			
	uRPF			
	IP/Port/MAC binding			
	Plaintext authentication and MD5 authentication for OSPF and RIPv2 packets			
	Public Key Infrastructure (PKI)			
Management and maintenance	Loading and upgrading through XMODEM/FTP/TFTP			
	Configuration through CLI, Telnet, and console port			
	SNMP v1/v2/v3			
	Web network management			
	Remote Monitoring (RMON) alarm, event, and history recording			
	IMC network management system			
	System log, alarming based on severity, debugging information output			
	NTP			
	Power, fan, and temperature alarming			
	Ping and Tracert			
	Virtual Cable Test (VCT)			
	Device Link Detection Protocol (DLDP)			
	LLDP			
	Loopback detection			
Power saving	Automatic port power-down			
	Scheduled port power-down (schedule job)			
EMC	FCC Part 15 Subpart B CLASS A			

Item	S5560X-30C-PWR-EI	S5560X-54C-PWR-EI	S5560X-34S-EI	S5560X-54S-EI
	ICES-003 CLASS A			
	VCCI CLASS A			
	CISPR 32 CLASS A			
	EN 55032 CLASS A			
	AS/NZS CISPR32 CLASS A			
	CISPR 24			
	EN 55024			
	EN 61000-3-2			
	EN 61000-3-3			
	ETSI EN 300 386			
	GB/T 9254			
	YD/T 993			
Safety	UL 60950-1			
	CAN/CSA C22.2 No 60950-1			
	IEC 60950-1			
	EN 60950-1			
	AS/NZS 60950-1			
	FDA 21 CFR Subchapter J			
	GB 4943.1			

Ordering Information

Product ID	Product Description
LS-5560X-30C-EI-GL	H3C S5560X-30C-EI L3 Ethernet Switch(24GE(8SFP Combo)+4SFP Plus+1Slot),No Power
LS-5560X-54C-EI-GL	H3C S5560X-54C-EI L3 Ethernet Switch with 48*10/100/1000BASE-T Ports,4*10G/1G BASE-X SFP+ Ports and 1*Slot,No Power
LS-5560X-30C-PWR-EI-GL	H3C S5560X-30C-PWR-EI L3 Ethernet Switch with 24*10/100/1000BASE-T Ports,4*10G/1G BASE-X SFP+ Ports and 1*Slot,PoE,No Power
LS-5560X-54C-PWR-EI-GL	H3C S5560X-54C-PWR-EI L3 Ethernet Switch with 48*10/100/1000BASE-T Ports,4*10G/1G BASE-X SFP+ Ports and 1*Slot,PoE,No Power
LS-5560X-30F-EI-GL	H3C S5560X-30F-EI L3 Ethernet Switch(24SFP(8GE Combo)+4SFP Plus+1Slot),No Power
LS-5560X-54F-EI-GL	H3C S5560X-54F-EI L3 Ethernet Switch with 48*100/1000 Base-X SFP

	Ports,4*10G/1G BASE-X SFP+ Ports and 1*Slot,No Power
LS-5560X-34S-EI-GL	H3C S5560X-34S-EI L3 Ethernet Switch(28GE(4SFP Combo)+4SFP Plus+2QSFP Plus),(AC/DC)
LS-5560X-54S-EI-GL	H3C S5560X-54S-EI L3 Ethernet Switch with 48*10/100/1000BASE-T Ports,4*10G/1G BASE-X SFP+ Ports and 2*40G QSFP+ Ports,(AC/DC)
Fan	
LSPM1FANSA	Ethernet Switch Fan Module(Power to Port Airflow) For S5560
LSPM1FANSB	Ethernet Switch Fan Module(Port to Power Airflow) For S5560
Power supply	
PSR150-A1-GL	150W Asset-manageable AC Power Module
PSR150-D1-GL	150W Asset-manageable DC Power Module
LS5M1560DC	560W DC Pluggable Power Module
PSR360-56A-GL	360W PoE AC Power Supply Module
PSR720-56A-GL	720W PoE AC Power Supply Module
PSR1110-56A-GL	1110W PoE AC Power Supply Module
Modules	
LSWM2QP2P	2-Port 40G QSFP Plus Interface Card
LSW2SP2PM	2-Port 10G SFP Plus Interface Card with MACSec
LSW2XGT2PM	2-Port 10G BASE-T Interface Card with MACSec
LSWM2SP8P	8-Port 10G SFP Plus Interface Card
LSWM4SP8PM	8-Port 10G SFP Plus with MACSec Interface Module
LSPM4G4T6P	4-Port 10/100/1000BASE-T Ethernet,6-Port SFP(2-Port Combo) Interface Module
Wireless license	
LIS-WX-128-BE	Enhanced Access Controller License,128 APs
LIS-WX-32-BE	Enhanced Access Controller License,32 APs
LIS-WX-16-BE	Enhanced Access Controller License,16 APs
LIS-WX-8-BE	Enhanced Access Controller License,8 APs
LIS-WX-1-BE	Enhanced Access Controller License,1 AP
Transceivers	
SFP-GE-SX-MM850-A	1000BASE-SX SFP Transceiver, Multi-Mode (850nm, 550m, LC)
SFP-GE-LX-SM1310-A	1000BASE-LX SFP Transceiver, Single Mode (1310nm, 10km, LC)

SFP-GE-LH40-SM1310	1000BASE-LH40 SFP Transceiver, Single Mode (1310nm, 40km, LC)
SFP-GE-LH40-SM1550	1000BASE-LH40 SFP Transceiver, Single Mode (1550nm, 40km, LC)
SFP-GE-LH80-SM1550	1000BASE-LH80 SFP Transceiver, Single Mode (1550nm, 80km, LC)
SFP-GE-LH100-SM1550	1000BASE-LH100 SFP Transceiver, Single Mode (1550nm, 100km, LC)
SFP-GE-LX-SM1310-BIDI	1000BASE-LX BIDI SFP Transceiver, Single Mode (TX1310/RX1490, 10km, LC)
SFP-GE-LX-SM1490-BIDI	1000BASE-LX BIDI SFP Transceiver, Single Mode (TX1490/RX1310, 10km, LC)
SFP-GE-T	1000BASE-T SFP
SFP-XG-LH40-SM1550	SFP+ Module(1550nm,40km,LC)
SFP-XG-LX-SM1310-E	SFP+ Module(1310nm,10km,LC)
SFP-XG-SX-MM850-E	SFP+ Module(850nm,300m,LC)
SFP-25G-SR-MM850	25G SFP28 Optical Transceiver Module (850nm,100m,SR,MM,LC)
QSFP-40G-LR4-WDM1300	40GBASE-LR4 QSFP+ Optical Transceiver Module
QSFP-40G-CSR4-MM850	QSFP+ 40GBASE Optical Transceiver Module (850nm,300m,CSR4,Support 40G to 4*10G)
QSFP-40G-SR4-MM850	QSFP+ 40GBASE Optical Transceiver Module (850nm,100m,SR4,Support 40G to 4*10G)
Cables	
CAB-CON-1.8m	Single Cable,Console Serial Port Cable,1.8m,D9F,28UL20276(4P)(P296U),MPH-8P8C
LSWM1STK	SFP+ Cable 0.65m
LSWM2STK	SFP+ Cable 1.2m
LSWM3STK	SFP+ Cable 3m
LSTM1STK	SFP+ Cable 5m
SFP-25G-D-CAB-1M	25G SFP28 to 25G SFP28 1m Passive Cable
SFP-25G-D-CAB-3M	25G SFP28 to 25G SFP28 3m Passive Cable

SFP-25G-D-CAB-5M	25G SFP28 to 25G SFP28 5m Passive Cable
LSWM1QSTK0	40G QSFP+ Cable 1m
LSWM1QSTK1	40G QSFP+ Cable 3m
LSWM1QSTK2	40G QSFP+ Cable 5m
LSWM1QSTK3	40G QSFP+ to 4x10G SFP+ Cable 1m
LSWM1QSTK4	40G QSFP+ to 4x10G SFP+ Cable 3m
LSWM1QSTK5	40G QSFP+ to 4x10G SFP+ Cable 5m
OP-MPO8-8LC-10-M	Fiber Connector,MPO(8 core)/PC,8LC/PC(0.5m),Multimode(OM3),3.0mm,10.0m
OP-MPO8-MPO8-10-M	Fiber connector,MPO(8 core)/PC,MPO(8 core)/PC,Multimode(OM3),3.0mm,10.0m
OP-MPO8-MPO8-50-M	Fiber connector,MPO(8 core)/PC,MPO(8 core)/PC,Multimode(OM3),3.0mm,50.0m
OP-MPO8-MPO8-100-M	Fiber connector,MPO(8 core)/PC,MPO(8 core)/PC,Multimode(OM3),3.0mm,100.0m
OP-MPO8-MPO8-200-M	Fiber connector,MPO(8 core)/PC,MPO(8 core)/PC,Multimode(OM3),3.0mm,200.0m

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