



# H3C S5120V3-LI Gigabit Access Switch Series

Release Date: Nov, 2022



New H3C Technologies Co., Limited

## H3C S5120V3-LI Gigabit Access Switch Series

### Product Overview

H3C S5120V3-LI Ethernet switch product is independently developed by New H3C Technologies Co., Ltd. (H3C). It is a second-generation smart managed switch designed for network environments that require high performance, high port density, and easy installation.

H3C S5120V3-LI Ethernet switch provides 10/100/1000Base-T adaptive Ethernet ports or SFP/SFP+ optical ports. In enterprise networks, it can be used as an access device to provide Gigabit to desktops; in metropolitan area networks or networks of industrial users, it can provide Gigabit access to end users or tandem low-end switches downwards, and connect to high-capacity L3 switches through Gigabit fiber or link aggregation upwards.

H3C S5120V3-LI Ethernet switch series supports the innovative Intelligent Resilient Framework (IRF) technology, which allows users to connect up to nine S5120V3-LI switches to form a logically independent entity to build a highly reliable, easily scalable, and manageable new intelligent network.

H3C S5120V3-LI Ethernet switch series includes the following models:

- S5120V3-10P-LI: 8\*10/100/1000TX+ 2\*SFP
- S5120V3-10P-PWR-LI: 8\*10/100/1000TX + 2\*SFP
- S5120V3-20P-LI: 16\*10/100/1000TX+ 4\*SFP
- S5120V3-28P-LI: 24 \*10/100/1000TX+ 4\*SFP
- S5120V3-52P-LI: 48\*10/100/1000TX+ 4\*SFP
- S5120V3-28P-PWR-LI: 24 \*10/100/1000TX+ 4\*SFP
- S5120V3-28P-HPWR-LI: 24 \*10/100/1000TX+ 4\*SFP(4\*GE Combo Ports)
- S5120V3-52P-PWR-LI: 48\*10/100/1000TX+ 4\*SFP
- S5120V3-28S-LI: 24\*10/100/1000TX+ 4\*SFP+
- S5120V3-52S-LI: 48\*10/100/1000TX+ 4\*SFP+
- S5120V3-28S-PWR-LI: 24\*10/100/1000TX + 4\*SFP+
- S5120V3-52S-PWR-LI: 48\*10/100/1000TX + 4\*SFP+
- S5120V3-28S-HPWR-LI: 24\*10/100/1000TX + 4\*SFP combo+ 4\*SFP+



S5120V3-10P-LI



S5120V3-10P-PWR-LI



S5120V3-20P-LI



S5120V3-28P-LI



S5120V3-52P-LI



S5120V3-28P-PWR-LI



S5120V3-28P-HPWR-LI



S5120V3-52P-PWR-LI



S5120V3-28S-LI



S5120V3-52S-LI



S5120V3-28S-PWR-LI



S5120V3-52S-PWR-LI



S5120V3-28S-HPWR-LI

## Features and benefits

### Abundant service capabilities

H3C S5120V3-LI Ethernet switch series supports Internet broadband access and offers Gigabit port access and uplink interface for small and medium-sized enterprises. It supports rich features such as Jumbo Frame, 802.1X, MAC authentication, port security, LACP, 4K VLANs, up to 16K MAC address and blackhole MAC address, and abundant functions such as port-based priority auto-mapping of Layer 2 and Layer 3, port-based mirror, redirection, port isolation, access control lists, port speed limit and rich Ethernet IPv6 features.

### IRF2 (Second Generation Intelligent Resilient Framework)

H3C S5120V3-LI switch series supports IRF2 technology that allows multiple physical devices it connects to be virtualized into one logical device. In this way, users can manage and use these multiple devices as a single device. IRF can bring the following benefits to users:

- Simplified management: Once an IRF is built, users can log into the unified logical device by connecting to any port of any member. By configuring a single device, users can manage the whole intelligent resilient system and all member devices in the system, without physically

connecting to each member device for configuration and management.

- Simplified services: Various control protocols running on the logical device formed by IRF are running as if they are on one device. For example, routing protocols perform the unified calculation as one device. With the application of cross-device link aggregation technology, the original spanning tree protocol will be replaced. This avoids a great number of protocol packet exchanges among the members, simplifies network operation, and shortens the convergence time during network flapping.
- Elastic extension: Elastic extension can be achieved according to user needs to ensure user investment. And the new device can achieve a "hot swap" when adding or leaving IRF, without affecting the normal operation of other devices.
- High reliability: The high reliability of IRF is embodied in three aspects, specifically, links, devices, and protocols. Not only the physical ports of members can be aggregated, but also the physical links between the IRF system and the upper or lower layer devices can be aggregated, and thus the reliability of links is increased through a multi-link backup. An IRF system comprises multiple member devices. As soon as the master fails, the IRF system elects a new master immediately to prevent service interruption and implement 1:N backup. The IRF system has real-time protocol hot backup functions responsible for backing up configuration information of the protocol to all other member devices, achieving 1:N protocol reliability.
- High performance: For high-end switches, performance and port density will be limited by the hardware structure. But for an IRF system, its performance and port density are the sum of the performance and port numbers of all devices within the system. Therefore, the IRF technology can easily expand the switching capability of the device and the density of user ports several times, thereby greatly improving the performance of the device.
- Easy management: The entire resilient framework shares one IP. This simplifies network device and topology management, improves operating efficiency, and reduces maintenance costs.

## Comprehensive security control policies

- ARP attacks and ARP viruses are major threats to LAN security, so the H3C S5120V3-LI switch series comes with diverse ARP protection functions such as ARP Detection to challenge the legitimacy of clients, validate the ARP packets, and set a speed limit for ARP to prevent ARP swarm attacks from targeting CPU.
- H3C S5120V3-LI switch series supports EAD (End User Admission Domination) function. With the background system, EAD integrates terminal security policies, such as anti-virus and patching, into network access control and access right control policies to form a cooperative security system. By checking, isolating, fixing, managing, and monitoring access terminals, EAD changes passive, single point network protection to active, comprehensive network protection, and changes separate management to centralized management, enhancing the network capability for preventing viruses, worms, and new threats.
- It supports multiple authentication methods such as 802.1X authentication and centralized MAC

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authentication, and flexibly adapts to the multiple authentication requirements of the network environment.

### Rich QoS policies

- H3C S5120V3-LI switch series supports packet filtering at Layer 2 through Layer 4 and traffic classification. It provides a flexible queue-scheduling algorithm and allows settings to be configured based on ports and queues at the same time. SP, WRR, and SP+WRR modes are supported. It also supports ACL in the inbound and outbound direction, traffic policing, and port and traffic mirroring in the outbound and inbound direction, to monitor packets on specified ports for network detection and troubleshooting.

### Outstanding management capacity

- H3C S5120V3-LI switch series supports Simple Network Management Protocol (SNMP) v1/v2/v3, which can be managed by iMC. This series supports CLI command line, Web-based network management, and Telnet for easier device management, as well as encryption methods like SSH2.0 for more secure management.
- H3C S5120V3-LI switch series supports VLAN classification based on MAC address, which is a good solution for intelligent and flexible management of mobile office; combined with ACL policies in the global or VLAN mode, it simplifies configuration and minimizes hardware resources.

### Layer 3 routing features

H3C S5120V3-LI switch series provides rich layer 3 routing features and supports static routing, RIP, RIPng, and OSPF V1/V2/V3.

## Specifications

Feature	S5120V3-10P-LI	S5120V3-10P-PWR-LI	S5120V3-20P-LI	S5120V3-28P-LI	S5120V3-52P-LI	S5120V3-28P-PWR-LI	S5120V3-28P-HPWR-LI	S5120V3-52P-PWR-LI	S5120V3-28S-LI	S5120V3-52S-LI	S5120V3-28S-HPWR-LI	S5120V3-28S-PWR-LI	S5120V3-52S-PWR-LI
Switching capacity	20Gbps	20Gbps	40Gbps	56Gbps	104Gbps	56Gbps	56Gbps	104Gbps	128Gbps	176Gbps	128Gbps	128Gbps	176Gbps
Packet forwarding rate	15Mpps	15Mpps	30Mpps	41.7Mpps	77.4Mpps	41.7Mpps	41.7Mpps	77.4Mpps	95.232Mpps	130.952Mpps	95.232Mpps	95.232Mpps	130.952Mpps
Dimensions (W × D × H)	266×161×43.6 mm	330×230×43.6 mm	330×230×43.6 mm	440×160×43.6 mm	440×230×43.6 mm	440×260×43.6 mm	440×260×43.6 mm	440×400×43.6 mm	440×160×43.6 mm	440×230×43.6 mm	440×260×43.6 mm	440×260×43.6 mm	440×400×43.6 mm
Weight	≤ 1.5 kg	≤ 3 kg	≤ 2 kg	≤ 2.5 kg	≤ 3.5 kg	≤ 4 kg	≤ 4 kg	≤ 6 kg	≤ 2.5 kg	≤ 3.5 kg	≤ 4.5 kg	≤ 4.5 kg	≤ 6 kg





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Management port	1 console port												
Service ports	8*10/100/1000TX+2*SFP	8*10/100/1000TX+2*SFP	16*10/100/1000TX+4*SFP	24*10/100/1000TX+4*SFP	48*10/100/1000TX+4*SFP	24*10/100/1000TX+4*SFP	24*10/100/1000TX+4*SFP	48*10/100/1000TX+4*SFP	24*10/100/1000TX+4*SFP	48*10/100/1000TX+4*SFP	24*10/100/1000TX+4*SFP	24*10/100/1000TX+4*SFP	48*10/100/1000TX+4*SFP
Input voltage	AC: The rated voltage range is 100V to 240V, 50/60Hz.												
Total power consumption	MIN: AC: 8W MAX: AC: 15W	MIN: AC: 14W MAX: AC: 156W (PoE 125W)	MIN: AC: 9W MAX: AC: 19W	MIN: AC: 9W MAX: AC: 23W	MIN: AC: 18W MAX: AC: 41W	MIN: AC: 15W MAX: AC: 294W (PoE 240W)	MIN: AC: 12W MAX: AC: 400W (PoE 370W)	MIN: AC: 36W MAX: AC: 467W (PoE 370W)	MIN: AC: 10W MAX: AC: 24W	MIN: AC: 19W MAX: AC: 44W	MIN: AC: 16W MAX: AC: 445W (PoE 370W)	MIN: AC: 15W MAX: AC: 294W (PoE 240W)	MIN: AC: 36W MAX: AC: 467W (PoE 370W)
Operating temperature	-5°C to 45°C												
Relative humidity (non-condensing)	5% RH to 95% RH, non-condensing												
Link aggregation	GE port aggregation Static aggregation Dynamic aggregation Multichassis link aggregation												
Stacking	IRF2												
Traffic control	802.3x traffic control and half-duplex backpressure												
Jumbo Frame	Supported												
MAC address table	Blackhole MAC address Setting the maximum number of port MAC addresses to be learned												
VLAN	Port-based VLAN QinQ Voice VLAN Protocol VLAN MAC VLAN												
ARP	ARP Detection ARP speed limit												
ND	Supported												
VLAN virtual port	Supported												



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DHCP	DHCP Client DHCP Snooping DHCP Relay DHCP Server DHCP Option 82											
DNS	Static domain name resolution Dynamic domain name resolution for the client IPv4 and IPv6 address											
Routing protocols	IPv4/IPv6 static routing RIP/RIPng, OSPFV1/V2/V3											
Broadcast/Multicast/Unicast storm suppression	Storm suppression based on port bandwidth rate percentage Storm suppression based on PPS											
Smart Link	Supported											
Layer 2 ring network protocols	STP/RSTP/MSTP protocols STP Root Protection RRPP											
QoS/ACL	Packet filter SP/WRR/SP+WRR queue scheduling Bidirectional ACL Port-based speed limit Traffic-based redirection											
Mirroring	Port mirroring Traffic mirroring											
Security	Hierarchical user management and password protection SSH2.0 Port isolation 802.1X Port security MAC address authentication IP Source Guard HTTPs EAD											
Loading and upgrading	Loading and upgrading through File Transfer Protocol (FTP) Loading and upgrading through Trivial File Transfer Protocol (TFTP)											

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Management	Configuration from Command Line Interface (CLI) Remote configuration from Telnet Configuration through the console port Simple Network Management Protocol (SNMP) Remote Monitoring (RMON) alarms, events, and historical records iMC network management system WEB network management System log Alarming based on severity IRF NTP												
Maintenance	Debugging information output Ping and Tracert Telnet remote maintenance NQA DLDP Virtual Cable Test												

## Ordering Information:

H3C S5120V3-LI switch series ordering list

Item	Quantity	Remarks
S5120V3-10P-LI Ethernet Switch Host	1	Optional
S5120V3-10P-PWR-LI Ethernet Switch Host	1	Optional
S5120V3-20P-LI Ethernet Switch Host	1	Optional
S5120V3-28P-LI Ethernet Switch Host	1	Optional
S5120V3-28P-PWR-LI Ethernet Switch Host	1	Optional
S5120V3-28P-HPWR-LI Ethernet Switch Host	1	Optional
S5120V3-52P-LI Ethernet Switch Host	1	Optional
S5120V3-52P-PWR-LI Ethernet Switch Host	1	Optional
S5120V3-28S-LI Ethernet Switch Host	1	Optional
S5120V3-28S-PWR-LI Ethernet Switch Host	1	Optional
S5120V3-28S-HPWR-LI Ethernet Switch Host	1	Optional
S5120V3-52S-LI Ethernet Switch Host	1	Optional
S5120V3-52S-PWR-LI Ethernet Switch Host	1	Optional



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