



# H3C S5120V3-LI Layer 3 Gigabit Access Switch Series

Release Date: July, 2023



New H3C Technologies Co., Limited

## H3C S5120V3-LI Layer 3 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 Plus
- S5120V3-52S-LI: 48\*10/100/1000TX+ 4\*SFP Plus
- S5120V3-28S-PWR-LI: 24\*10/100/1000TX + 4\*SFP Plus
- S5120V3-52S-PWR-LI: 48\*10/100/1000TX + 4\*SFP Plus
- S5120V3-28S-HPWR-LI: 24\*10/100/1000TX + 4\*SFP combo+ 4\*SFP Plus
- S5120V3-28F-LI: 24\*SFP+ 2\*SFP(2GE Combo Ports)+ 2\*SFP Plus



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



S5120V3-28F-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 Layer 3 Gigabit Access

- 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 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.

### Green Design

The S5120V3-LI series switch implements a variety of green energy saving features, including auto-power-down (port automatic energy saving), if the interface status has been down for a period of time, the system automatically stops the interface power and the system enters power-saving mode. They also support EEE energy feature, by which if a port stays idle for a period of time, the system will set the port to energy-saving mode.

The S5120V3-10P-LI, S5120V3-10P-PWR-LI, S5120V3-20P-LI, S5120V3-28P-LI and S5120V3-28S-LI

## H3C S5120V3-LI Layer 3 Gigabit Access

switches are fan-less design, significantly reduce devices power consumption and noise.

### Hardware Specifications

| Feature                            | S5120V3-10P-LI                                                                                                                                                                                                              | S5120V3-10P-PWR-LI                             | S5120V3-20P-LI                    | S5120V3-28P-LI                    |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------------------------|-----------------------------------|
| Switching capacity                 | 20Gbps                                                                                                                                                                                                                      | 20Gbps                                         | 40Gbps                            | 56Gbps                            |
| Forwarding capacity                | 15Mpps                                                                                                                                                                                                                      | 15Mpps                                         | 30Mpps                            | 41.7Mpps                          |
| CPU                                | 1 Core, 800MHz                                                                                                                                                                                                              |                                                |                                   |                                   |
| Flash/SDRAM                        | 256MB/512MB                                                                                                                                                                                                                 |                                                |                                   |                                   |
| Dimensions (W × D × H)             | 266×161×43.6 mm                                                                                                                                                                                                             | 330×230×43.6 mm                                | 330×230×43.6 mm                   | 440×160×43.6 mm                   |
| Weight                             | ≤ 1.5 kg                                                                                                                                                                                                                    | ≤ 3 kg                                         | ≤ 2 kg                            | ≤ 2.5 kg                          |
| Management port                    | 1 console port                                                                                                                                                                                                              |                                                |                                   |                                   |
| Networking interface               | 8×10/100/1000TX+ 2×SFP                                                                                                                                                                                                      | 8×10/100/1000TX+ 2×SFP                         | 16×10/100/1000TX+4×SFP            | 24×10/100/1000TX+4×SFP            |
| Maximum Stacking bandwidth         | 16Gbps                                                                                                                                                                                                                      | 16Gbps                                         | 16Gbps                            | 16Gbps                            |
| Maximum stacking num               | 9                                                                                                                                                                                                                           | 9                                              | 9                                 | 9                                 |
| Port Surge                         | 6KV                                                                                                                                                                                                                         | 6KV                                            | 6KV                               | 6KV                               |
| Input voltage                      | AC: The rated voltage range is 100V to 240V, 50/60Hz.                                                                                                                                                                       |                                                |                                   |                                   |
| Total power consumption            | MIN:<br>AC: 8W<br>MAX:<br>AC: 15W                                                                                                                                                                                           | MIN:<br>AC: 14W<br>MAX:<br>AC: 156W (PoE 125W) | MIN:<br>AC: 9W<br>MAX:<br>AC: 19W | MIN:<br>AC: 9W<br>MAX:<br>AC: 23W |
| Fan number                         | Fan-less                                                                                                                                                                                                                    | Fan-less                                       | Fan-less                          | Fan-less                          |
| MTBF(Year)                         | 140.82                                                                                                                                                                                                                      | 117.08                                         | 136.24                            | 150.86                            |
| MTTR(Hour)                         | 1                                                                                                                                                                                                                           | 1                                              | 1                                 | 1                                 |
| Operating temperature              | -5°C ~ 50°C(normal operating temperature)<br>-5°C ~ 45°C(When using transceiver modules with maximum transmission distance < 80km)<br>-5°C ~ 40°C(When using transceiver modules with maximum transmission distance ≥ 80km) |                                                |                                   |                                   |
| Storage temperature                | -40°C ~ 70°C                                                                                                                                                                                                                |                                                |                                   |                                   |
| Relative humidity (non-condensing) | 5% RH to 95% RH, non-condensing                                                                                                                                                                                             |                                                |                                   |                                   |

### Hardware Specifications (continued)

| Feature                | S5120V3-52P-LI  | S5120V3-28P-PWR-LI | S5120V3-28P-HPWR-LI | S5120V3-52P-PWR-LI | S5120V3-28F-LI  |
|------------------------|-----------------|--------------------|---------------------|--------------------|-----------------|
| Switching capacity     | 104Gbps         | 56Gbps             | 56Gbps              | 104Gbps            | 92Gbps          |
| Forwarding capacity    | 77.4Mpps        | 41.7Mpps           | 41.7Mpps            | 77.4Mpps           | 136.9Mpps       |
| CPU                    | 1 Core, 800MHz  |                    |                     |                    |                 |
| Flash/SDRAM            | 256MB/512MB     |                    |                     |                    |                 |
| Dimensions (W × D × H) | 440×230×43.6 mm | 440×260×43.6 mm    | 440×260×43.6 mm     | 440×400×43.6 mm    | 440×230×43.6 mm |
| Weight                 | ≤ 3.5 kg        | ≤ 4 kg             | ≤ 4 kg              | ≤ 6 kg             | ≤ 3 kg          |
| Management port        | 1 console port  |                    |                     |                    |                 |

## H3C S5120V3-LI Layer 3 Gigabit Access

| Feature                            | S5120V3-52P-LI                                                                                                                                                                                                              | S5120V3-28P-PWR-LI                             | S5120V3-28P-HPWR-LI                                  | S5120V3-52P-PWR-LI                             | S5120V3-28F-LI                     |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|------------------------------------------------------|------------------------------------------------|------------------------------------|
| Networking interface               | 48×10/100/1000TX+4×SFP                                                                                                                                                                                                      | 24×10/100/1000TX+4×SFP                         | 24×10/100/1000TX+4×SFP(4Combo)                       | 48×10/100/1000TX+4×SFP                         | 24xSFP+2xSFP(2Combo)+2xSFP Plus    |
| Maximum Stacking bandwidth         | 16Gbps                                                                                                                                                                                                                      | 16Gbps                                         | 16Gbps                                               | 16Gbps                                         | 40Gbps                             |
| Maximum stacking num               | 9                                                                                                                                                                                                                           | 9                                              | 9                                                    | 9                                              | 9                                  |
| Port Surge                         | 6KV                                                                                                                                                                                                                         | 6KV                                            | 6KV                                                  | 6KV                                            | 6KV                                |
| Input voltage                      | AC: The rated voltage range is 100V to 240V, 50/60Hz.                                                                                                                                                                       |                                                |                                                      |                                                |                                    |
| Total power consumption            | MIN:<br>AC: 18W<br>MAX:<br>AC: 41W                                                                                                                                                                                          | MIN:<br>AC: 15W<br>MAX:<br>AC: 294W (PoE 240W) | MIN:<br>AC: 12W<br>MAX:<br>AC single 400W (PoE 370W) | MIN:<br>AC: 36W<br>MAX:<br>AC: 467W (PoE 370W) | MIN:<br>AC: 15W<br>MAX:<br>AC: 45W |
| Fan number                         | 1                                                                                                                                                                                                                           | 1                                              | 3                                                    | 1                                              | 2                                  |
| MTBF(Year)                         | 115.68                                                                                                                                                                                                                      | 87.06                                          | 52.81                                                | 50.19                                          | 150.86                             |
| MTTR(Hour)                         | 1                                                                                                                                                                                                                           | 1                                              | 1                                                    | 1                                              | 1                                  |
| Operating temperature              | -5°C ~ 50°C(normal operating temperature)<br>-5°C ~ 45°C(When using transceiver modules with maximum transmission distance < 80km)<br>-5°C ~ 40°C(When using transceiver modules with maximum transmission distance ≥ 80km) |                                                |                                                      |                                                |                                    |
| Storage temperature                | -40°C ~ 70°C                                                                                                                                                                                                                |                                                |                                                      |                                                |                                    |
| Relative humidity (non-condensing) | 5% RH to 95% RH, non-condensing                                                                                                                                                                                             |                                                |                                                      |                                                |                                    |

## Hardware Specifications (continued)

| Feature                    | S5120V3-28S-LI                                        | S5120V3-52S-LI                     | S5120V3-28S-HPWR-LI                            | S5120V3-28S-PWR-LI                             | S5120V3-52S-PWR-LI                             |
|----------------------------|-------------------------------------------------------|------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| Switching capacity         | 128Gbps                                               | 176Gbps                            | 128Gbps                                        | 128Gbps                                        | 176Gbps                                        |
| Forwarding capacity        | 95.232Mpps                                            | 130.952Mpps                        | 95.232Mpps                                     | 95.232Mpps                                     | 130.952Mpps                                    |
| CPU                        | 1 Core, 800MHz                                        |                                    |                                                |                                                |                                                |
| Flash/SDRAM                | 256MB/512MB                                           |                                    |                                                |                                                |                                                |
| Dimensions (W × D × H)     | 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                     | ≤ 2.5 kg                                              | ≤ 3.5 kg                           | ≤ 4.5 kg                                       | ≤ 4.5 kg                                       | ≤ 6 kg                                         |
| Management port            | 1 console port                                        |                                    |                                                |                                                |                                                |
| Networking interface       | 24×10/100/1000TX+4×SFP Plus                           | 48×10/100/1000TX+4×SFP Plus        | 24×10/100/1000TX+4×SFP combo + 4×SFP Plus      | 24×10/100/1000TX+4×SFP Plus                    | 48×10/100/1000TX+4×SFP Plus                    |
| Maximum Stacking bandwidth | 80Gbps                                                | 80Gbps                             | 80Gbps                                         | 80Gbps                                         | 80Gbps                                         |
| Maximum stacking num       | 9                                                     | 9                                  | 9                                              | 9                                              | 9                                              |
| Port Surge                 | 6KV                                                   | 6KV                                | 6KV                                            | 6KV                                            | 6KV                                            |
| Input voltage              | AC: The rated voltage range is 100V to 240V, 50/60Hz. |                                    |                                                |                                                |                                                |
| Total power consumption    | MIN:<br>AC: 10W<br>MAX:<br>AC: 24W                    | MIN:<br>AC: 19W<br>MAX:<br>AC: 44W | MIN:<br>AC: 16W<br>MAX:<br>AC: 445W (PoE 370W) | MIN:<br>AC: 15W<br>MAX:<br>AC: 294W (PoE 240W) | MIN:<br>AC: 36W<br>MAX:<br>AC: 467W (PoE 370W) |

## H3C S5120V3-LI Layer 3 Gigabit Access

| Feature                            | S5120V3-28S-LI                                                                                                                                                                                                              | S5120V3-52S-LI | S5120V3-28S-HPWR-LI | S5120V3-28S-PWR-LI | S5120V3-52S-PWR-LI |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------|--------------------|--------------------|
| Fan number                         | Fan-less                                                                                                                                                                                                                    | 1              | 3                   | 1                  | 1                  |
| MTBF(Year)                         | 150.86                                                                                                                                                                                                                      | 115.68         | 52.81               | 87.06              | 50.19              |
| MTTR(Hour)                         | 1                                                                                                                                                                                                                           | 1              | 1                   | 1                  | 1                  |
| Operating temperature              | -5°C ~ 50°C(normal operating temperature)<br>-5°C ~ 45°C(When using transceiver modules with maximum transmission distance < 80km)<br>-5°C ~ 40°C(When using transceiver modules with maximum transmission distance ≥ 80km) |                |                     |                    |                    |
| Storage temperature                | -40°C ~ 70°C                                                                                                                                                                                                                |                |                     |                    |                    |
| Relative humidity (non-condensing) | 5% RH to 95% RH, non-condensing                                                                                                                                                                                             |                |                     |                    |                    |

## Software Specifications

| Feature                                       | S5120V3-LI switch series                                                                                                                                                                            |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Port aggregation                              | GE/10GE port aggregation<br>Dynamic aggregation<br>Static aggregation<br>Cross-device aggregation                                                                                                   |
| Broadcast/Multicast/Unicast storm suppression | Storm suppression based on port bandwidth percentage<br>Storm suppression based on PPS<br>Storm suppression based on BPS<br>Broadcast traffic/Multicast traffic/Unknown unicast traffic suppression |
| Traffic control                               | 802.3x traffic control and half-duplex backpressure                                                                                                                                                 |
| IRF2                                          | Distributed device management, distributed link aggregation, and distributed resilient routing<br>Stacking through standard Ethernet interfaces<br>Local device stacking and remote device stacking |
| MAC address table                             | Static MAC address<br>Blackhole MAC address<br>Setting the maximum number of port MAC addresses to be learned                                                                                       |
| VLAN                                          | Port-based VLAN<br>MAC-based VLAN<br>Protocol-based VLAN<br>QinQ and selective QinQ<br>VLAN mapping<br>Voice VLAN<br>MVRP                                                                           |
| DHCP                                          | DHCP Client<br>DHCP Snooping<br>DHCP Snooping option82<br>DHCP Relay<br>DHCP Server<br>DHCP auto-config                                                                                             |
| VLAN interface                                | Both IPv4 and IPv6 supported                                                                                                                                                                        |
| ARP                                           | ARP Detection<br>ARP speed limit                                                                                                                                                                    |

## H3C S5120V3-LI Layer 3 Gigabit Access

| Feature                       | S5120V3-LI switch series                                                                                                                                                                                                                                         |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IP routing                    | Static routing<br>RIPv1/v2 and RIPv2<br>OSPFv1/v2 and OSPFv3                                                                                                                                                                                                     |
| Multicast                     | IGMP Snooping V2/V3<br>PIM Snooping<br>MLD Snooping<br>Multicast VLAN<br>Multicast VLAN+                                                                                                                                                                         |
| Layer 2 ring network protocol | STP/RSTP/MSTP/PVST/PVST+<br>STP Root Protection<br>Smart Link<br>RRPP<br>G.8032 ERPS (Ethernet Ring Protection Switching)                                                                                                                                        |
| ACL                           | Packet filtering at Layer 2 through layer 4 Traffic classification based on source MAC addresses, destination MAC addresses, source IPv4/IPv6 addresses,<br>Time range-based ACL<br>VLAN-based ACL<br>Bidirectional ACL                                          |
| QoS                           | Port rate limit (receiving and transmitting)<br>Packet redirection<br>Committed access rate (CAR)<br>Eight output queues on each port<br>Flexible queue scheduling algorithms based on ports and queues, including SP, WRR and SP+WRR<br>802.1p DSCP remarking   |
| Traffic Statistic             | Sflow                                                                                                                                                                                                                                                            |
| Forwarding                    | Wire-speed/Line-rate architecture                                                                                                                                                                                                                                |
| Mirroring                     | Port mirroring<br>Traffic mirroring<br>RSPAN                                                                                                                                                                                                                     |
| Security                      | Hierarchical user management and password protection<br>AAA authentication support<br>RADIUS authentication<br>HWTACACS<br>SSH2.0<br>Port isolation<br>802.1X authentication, centralized MAC authentication<br>Port security<br>IP Source Guard<br>HTTPs<br>EAD |

## H3C S5120V3-LI Layer 3 Gigabit Access

| Feature                    | S5120V3-LI switch series                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Management and maintenance | Loading and upgrading through XModem/FTP/TFTP<br>Zero Touch Provisioning<br>Configuration through CLI, Telnet, and console port<br>SNMPv1/v2c/v3 and Web-based NMS<br>Restful<br>Remote monitoring (RMON ) alarm, event, and history recording<br>IMC NMS<br>System log, alarming based on severities, and output of debugging information<br>NTP<br>Ping, Tracert<br>NQA<br>Virtual cable test (VCT)<br>Device link detection protocol (DLDP)<br>Loopback-detection |
| EMC                        | FCC Part 15 Subpart B CLASS A<br>ICES-003 CLASS A<br>VCCI CLASS A<br>CISPR 32 CLASS A<br>EN 55032 CLASS A<br>AS/NZS CISPR32 CLASS A<br>CISPR 35<br>EN 55035<br>EN 61000-3-2<br>EN 61000-3-3<br>GB/T 9254.1                                                                                                                                                                                                                                                           |
| Safety                     | UL 62368-1<br>CAN/CSA C22.2 No 62368-1<br>IEC 62368-1<br>EN 62368-1<br>AS/NZS 62368-1<br>FDA 21 CFR Subchapter J<br>GB 4943.1                                                                                                                                                                                                                                                                                                                                        |

## Performance Specification

| Entries              | S5120V3-10P-LI, S5120V3-10P-PWR-LI, S5120V3-28P-HPWR-LI,<br>S5120V3-28S-LI, S5120V3-28S-PWR-LI, S5120V3-28S-HPWR-LI,<br>S5120V3-52S-LI, S5120V3-52S-PWR-LI, S5120V3-28F-LI | S5120V3-20P-LI, S5120V3-28P-LI,<br>S5120V3-28P-PWR-LI, S5120V3-52P-LI,<br>S5120V3-52P-PWR-LI |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| MAC address entries  | 16K                                                                                                                                                                        | 8K                                                                                           |
| Static Mac address   | 1K                                                                                                                                                                         |                                                                                              |
| VLAN table           | 4094                                                                                                                                                                       |                                                                                              |
| VLAN interface       | 32                                                                                                                                                                         |                                                                                              |
| IPv4 routing entries | 1024                                                                                                                                                                       | 512                                                                                          |

## H3C S5120V3-LI Layer 3 Gigabit Access

| Entries                      | S5120V3-10P-LI, S5120V3-10P-PWR-LI, S5120V3-28P-HPWR-LI, S5120V3-28S-LI, S5120V3-28S-PWR-LI, S5120V3-28S-HPWR-LI, S5120V3-52S-LI, S5120V3-52S-PWR-LI, S5120V3-28F-LI | S5120V3-20P-LI, S5120V3-28P-LI, S5120V3-28P-PWR-LI, S5120V3-52P-LI, S5120V3-52P-PWR-LI |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| IPv4 ARP entries             | 1024                                                                                                                                                                 | 128                                                                                    |
| IPv4 ACL entries             | 512                                                                                                                                                                  | 256                                                                                    |
| IPv4 multicast L2 entries    | 1000                                                                                                                                                                 |                                                                                        |
| IPv6 unicast routing entries | 240                                                                                                                                                                  | 16                                                                                     |
| QOS forward queues           | 8                                                                                                                                                                    |                                                                                        |
| IPv6 ACL entries             | 256                                                                                                                                                                  |                                                                                        |
| IPv6 ND entries              | 240                                                                                                                                                                  | 64                                                                                     |
| Jumbo frame length           | 10000                                                                                                                                                                |                                                                                        |
| MAX num in one link group    | 8                                                                                                                                                                    |                                                                                        |
| Link group num               | 124                                                                                                                                                                  |                                                                                        |
|                              |                                                                                                                                                                      |                                                                                        |

## PoE Power Capacity

| Product Name        | Total PoE power capacity | PoE Ports Quantity                       |
|---------------------|--------------------------|------------------------------------------|
| S5120V3-10P-PWR-LI  | 125W                     | 15.4W (802.3af): 8<br>30W (802.3at): 4   |
| S5120V3-28P-PWR-LI  | 240W                     | 15.4W (802.3af): 15<br>30W (802.3at): 8  |
| S5120V3-28P-HPWR-LI | 370W                     | 15.4W (802.3af): 24<br>30W (802.3at): 12 |
| S5120V3-52P-PWR-LI  | 370W                     | 15.4W (802.3af): 24<br>30W (802.3at): 12 |
| S5120V3-28S-PWR-LI  | 240W                     | 15.4W (802.3af): 15<br>30W (802.3at): 8  |
| S5120V3-28S-HPWR-LI | 370W                     | 15.4W (802.3af): 24<br>30W (802.3at): 12 |
| S5120V3-52S-PWR-LI  | 370W                     | 15.4W (802.3af): 24<br>30W (802.3at): 12 |

## Standards and Protocols Compliance

| Organization | Standards And Protocols                           |
|--------------|---------------------------------------------------|
| IEEE         | 802.1x Port based network access control protocol |
|              | 802.1ab Link Layer Discovery Protocol             |
|              | 802.1ak MVRP and MRP                              |

| Organization | Standards And Protocols                                                       |
|--------------|-------------------------------------------------------------------------------|
|              | 802.1ax Link Aggregation                                                      |
|              | 802.1d Media Access Control Bridges                                           |
|              | 802.1p Priority                                                               |
|              | 802.1q VLANs                                                                  |
|              | 802.1s Multiple Spanning Trees                                                |
|              | 802.1ag Connectivity Fault Management                                         |
|              | 802.1v VLAN classification by Protocol and Port                               |
|              | 802.1w Rapid Reconfiguration of Spanning Tree                                 |
|              | 802.3ad Link Aggregation Control Protocol                                     |
|              | 802.3af Power over Ethernet                                                   |
|              | 802.3at Power over Ethernet                                                   |
|              | 802.3az Energy Efficient Ethernet                                             |
|              | 802.3ah Ethernet in the First Mile                                            |
|              | 802.3x Full Duplex and flow control                                           |
|              | 802.3u 100BASE-T                                                              |
|              | 802.3ab 1000BASE-T                                                            |
|              | 802.3z 1000BASE-X                                                             |
| IETF         | RFC 768 User Datagram Protocol (UDP)                                          |
|              | RFC 791 Internet Protocol (IP)                                                |
|              | RFC 792 Internet Control Message Protocol (ICMP)                              |
|              | RFC 793 Transmission Control Protocol (TCP)                                   |
|              | RFC 813 Window and Acknowledgement Strategy in TCP                            |
|              | RFC 815 IP datagram reassembly algorithms                                     |
|              | RFC 8201 Path MTU Discovery for IP version 6                                  |
|              | RFC 826 Address Resolution Protocol (ARP)                                     |
|              | RFC 879 TCP maximum segment size and related topics                           |
|              | RFC 896 Congestion control in IP/TCP internetworks                            |
|              | RFC 917 Internet subnets                                                      |
|              | RFC 919 Broadcasting Internet Datagrams                                       |
|              | RFC 922 Broadcasting Internet Datagrams in the Presence of Subnets (IP_BROAD) |
|              | RFC 951 BOOTP                                                                 |
|              | RFC 1027 Proxy ARP                                                            |
|              | RFC 1122 Requirements for Internet Hosts - Communications Layers              |
|              | RFC 1213 MIB-2 Stands for Management Information Base                         |
|              | RFC 1215 Convention for defining traps for use with the SNMP                  |
|              | RFC 1256 ICMP Router Discovery Messages                                       |
|              | RFC 1350 TFTP Protocol (revision 2)                                           |
|              | RFC 1393 Traceroute Using an IP Option                                        |
|              | RFC 1519 Classless Inter-Domain Routing (CIDR)                                |
|              | RFC 1542 BOOTP Extensions                                                     |

| Organization | Standards And Protocols                                                                      |
|--------------|----------------------------------------------------------------------------------------------|
|              | RFC 1583 OSPF Version 2                                                                      |
|              | RFC 1591 Domain Name System Structure and Delegation                                         |
|              | RFC 1757 Remote Network Monitoring Management Information Base                               |
|              | RFC 1812 Requirements for IP Version 4 Router                                                |
|              | RFC 1918 Address Allocation for Private Internet                                             |
|              | RFC 2131 Dynamic Host Configuration Protocol (DHCP)                                          |
|              | RFC 2132 DHCP Options and BOOTP Vendor Extensions                                            |
|              | RFC 2273 SNMPv3 Applications                                                                 |
|              | RFC 2328 OSPF Version 2                                                                      |
|              | RFC 2375 IPv6 Multicast Address Assignments                                                  |
|              | RFC 2401 Security Architecture for the Internet Protocol                                     |
|              | RFC 2402 IP Authentication Header                                                            |
|              | RFC 2460 Internet Protocol, Version 6 (IPv6) Specification                                   |
|              | RFC 2464 Transmission of IPv6 over Ethernet Networks                                         |
|              | RFC 2576 (Coexistence between SNMP V1, V2, V3)                                               |
|              | RFC 2579 Textual Conventions for SMIv2                                                       |
|              | RFC 2580 Conformance Statements for SMIv2                                                    |
|              | RFC 2711 IPv6 Router Alert Option                                                            |
|              | RFC 2787 Definitions of Managed Objects for the Virtual Router Redundancy Protocol           |
|              | RFC 2925 Definitions of Managed Objects for Remote Ping, Traceroute, and Lookup Operations   |
|              | RFC 3101 OSPF Not-so-stubby-area option                                                      |
|              | RFC 3046 DHCP Relay Agent Information Option                                                 |
|              | RFC 3056 Connection of IPv6 Domains via IPv4 Clouds                                          |
|              | RFC 3137 OSPF Stub Router Advertisement sFlow                                                |
|              | RFC 3416 (SNMP Protocol Operations v2)                                                       |
|              | RFC 3417 (SNMP Transport Mappings)                                                           |
|              | RFC 3418 Management Information Base (MIB) for the Simple Network Management Protocol (SNMP) |
|              | RFC 3484 Default Address Selection for IPv6                                                  |
|              | RFC 3509 Alternative Implementations of OSPF Area Border Routers                             |
|              | RFC 3580 IEEE 802.1X Remote Authentication Dial In User Service (RADIUS) Usage Guidelines    |
|              | RFC 3623 Graceful OSPF Restart                                                               |
|              | RFC 4022 MIB for TCP                                                                         |
|              | RFC 4113 MIB for UDP                                                                         |
|              | RFC 4213 Basic Transition Mechanisms for IPv6 Hosts and Routers                              |
|              | RFC 4251 The Secure Shell (SSH) Protocol                                                     |
|              | RFC 4252 SSHv6 Authentication                                                                |
|              | RFC 4253 SSHv6 Transport Layer                                                               |
|              | RFC 4254 SSHv6 Connection                                                                    |
|              | RFC 4291 IP Version 6 Addressing Architecture                                                |
|              | RFC 4292 IP Forwarding Table MIB                                                             |

## H3C S5120V3-LI Layer 3 Gigabit Access

| Organization | Standards And Protocols                                                         |
|--------------|---------------------------------------------------------------------------------|
|              | RFC 4293 Management Information Base for the Internet Protocol (IP)             |
|              | RFC 4419 Key Exchange for SSH                                                   |
|              | RFC 4443 ICMPv6                                                                 |
|              | RFC 4541 IGMP & MLD Snooping Switch                                             |
|              | RFC 4552 Authentication/Confidentiality for OSPFv3                              |
|              | RFC 4750 OSPFv2 MIB partial support no SetMIB                                   |
|              | RFC 4861 IPv6 Neighbor Discovery                                                |
|              | RFC 4862 IPv6 Stateless Address Auto-configuration                              |
|              | RFC 4940 IANA Considerations for OSPF                                           |
|              | RFC 5095 Deprecation of Type 0 Routing Headers in IPv6                          |
|              | RFC 5187 OSPFv3 Graceful Restart                                                |
|              | RFC 5340 OSPFv3 for IPv6                                                        |
|              | RFC 5424 Syslog Protocol                                                        |
|              | RFC 5880 Bidirectional Forwarding Detection                                     |
|              | RFC 5905 Network Time Protocol Version 4: Protocol and Algorithms Specification |
|              | RFC 6620 FCFS SAVI                                                              |
|              | RFC 6987 OSPF Stub Router Advertisement                                         |
|              | RFC 5381 Experience of Implementing NETCONF over SOAP                           |
| ITU          | ITU-T Y.1731                                                                    |
|              | ITU-T Rec G.8032/Y.1344 Mar. 2010                                               |

## Ordering Information

### H3C S5120V3-LI switch series ordering list

| Product ID               | Product Description                                                                                                                                        |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LS-5120V3-10P-LI-GL      | H3C S5120V3-10P-LI L2 Ethernet Switch with 8*10/100/1000BASE-T Ports and 2*1000BASE-X SFP Ports,(AC)                                                       |
| LS-5120V3-10P-PWR-LI-GL  | H3C S5120V3-10P-PWR-LI L2 Ethernet Switch with 8*10/100/1000BASE-T PoE+ Ports (AC 125W) and 2*1000BASE-X SFP Ports,(AC)                                    |
| LS-5120V3-20P-LI-GL      | H3C S5120V3-20P-LI L2 Ethernet Switch with 16*10/100/1000BASE-T Ports and 4*1000BASE-X SFP Ports,(AC)                                                      |
| LS-5120V3-28P-LI-GL      | H3C S5120V3-28P-LI L2 Ethernet Switch with 24*10/100/1000BASE-T Ports and 4*1000BASE-X SFP Ports,(AC)                                                      |
| LS-5120V3-28P-PWR-LI-GL  | H3C S5120V3-28P-PWR-LI L2 Ethernet Switch with 24*10/100/1000BASE-T PoE+ Ports (AC 240W) and 4*1000BASE-X SFP Ports,(AC)                                   |
| LS-5120V3-28P-HPWR-LI-GL | H3C S5120V3-28P-HPWR-LI L2 Ethernet Switch with 24*10/100/1000BASE-T PoE+ Ports (AC 370W), 4*100/1000BASE-X SFP Ports, and 4*GE Combo Ports,(AC)           |
| LS-5120V3-52P-LI-GL      | H3C S5120V3-52P-LI L2 Ethernet Switch with 48*10/100/1000BASE-T Ports and 4*1000BASE-X SFP Ports,(AC)                                                      |
| LS-5120V3-52P-PWR-LI-GL  | H3C S5120V3-52P-PWR-LI L2 Ethernet Switch with 48*10/100/1000BASE-T PoE+ Ports (AC 370W) and 4*1000BASE-X SFP Ports,(AC)                                   |
| LS-5120V3-28S-LI-GL      | H3C S5120V3-28S-LI L2 Ethernet Switch with 24*10/100/1000BASE-T Ports and 4*1G/10G BASE-X SFP Plus Ports,(AC)                                              |
| LS-5120V3-28S-PWR-LI-GL  | H3C S5120V3-28S-PWR-LI L2 Ethernet Switch with 24*10/100/1000BASE-T PoE+ Ports and 4*1G/10G BASE-X SFP Plus Ports,(AC)                                     |
| LS-5120V3-28S-HPWR-LI-GL | H3C S5120V3-28S-HPWR-LI L2 Ethernet Switch with 24*10/100/1000BASE-T PoE+ Ports, 4*100/1000BASE-X SFP Combo Ports, and 4*1G/10G BASE-X SFP Plus Ports,(AC) |

## H3C S5120V3-LI Layer 3 Gigabit Access

| Product ID              | Product Description                                                                                                                                             |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LS-5120V3-52S-LI-GL     | H3C S5120V3-52S-LI L2 Ethernet Switch with 48*10/100/1000BASE-T Ports and 4*1G/10G BASE-X SFP Plus Ports,(AC)                                                   |
| LS-5120V3-52S-PWR-LI-GL | H3C S5120V3-52S-PWR-LI L2 Ethernet Switch with 48*10/100/1000BASE-T PoE+ Ports and 4*1G/10G BASE-X SFP Plus Ports,(AC)                                          |
| LS-5120V3-28F-LI-GL     | H3C S5120V3-28F-LI L2 Ethernet Switch with 24*100/1000Base-X Ports, 2*10/100/1000Base-T Combo Ports, 2*1000Base-X SFP Ports and 2*1G/10G Base-X SFP+ Ports,(AC) |
| <b>Transceivers</b>     |                                                                                                                                                                 |
| 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-T                | SFP GE Copper Interface Transceiver Module (100m,RJ45)                                                                                                          |
| SFP-XG-SX-MM850-E       | SFP+ Module(850nm,300m,LC)                                                                                                                                      |
| SFP-XG-LX-SM1310        | SFP+ Module(1310nm,10km,LC)                                                                                                                                     |
| <b>Cable</b>            |                                                                                                                                                                 |
| LSWM1STK                | SFP+ Cable 0.65m                                                                                                                                                |
| LSWM2STK                | SFP+ Cable 1.2m                                                                                                                                                 |
| LSWM3STK                | SFP+ Cable 3m                                                                                                                                                   |
| LSTM1STK                | SFP+ Cable 5m                                                                                                                                                   |



The Leader in Digital Solutions

## **New H3C Technologies Co., Limited**

Beijing Headquarters

Tower 1, LSH Center, 8 Guangshun South Street, Chaoyang

District, Beijing, China

Zip: 100102

Hangzhou Headquarters

No.466 Changhe Road, Binjiang District, Hangzhou, Zhejiang,  
China

Zip: 310052

Tel: +86-571-86760000

Copyright ©2022 New H3C Technologies Co., Limited Reserves all rights

Disclaimer: Though H3C strives to provide accurate information in this document, we cannot guarantee that details do not contain any technical error or printing error. Therefore, H3C cannot accept responsibility for any inaccuracy in this document.

H3C reserves the right for the modification of the contents herein without prior notification

<http://www.h3c.com>