H3C S9820-8C & S9820-8C-SAN Switches

Hardware Information and Specifications

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Preface

H3C S9820-8C & S9820-8C-SAN Switches Hardware Information and Specifications describes the product models, technical specifications, removable components, ports, LEDs, and cooling system of the *S9820-8C & S9820-8C-SAN* Switches.

This preface includes the following topics about the documentation:

Audience

This documentation is intended for:

- Network planners.
- Field technical support and servicing engineers.
- Network administrators working with the S9820-8C switch.

Conventions

The following information describes the conventions used in the documentation.

Command conventions

Convention	Description
Boldface	**Bold** text represents commands and keywords that you enter literally as shown.
Italic	*Italic* text represents arguments that you replace with actual values.
[ ]	Square brackets enclose syntax choices (keywords or arguments) that are optional.
{ x | y | ... }	Braces enclose a set of required syntax choices separated by vertical bars, from which you select one.
[x | y | ...]	Square brackets enclose a set of optional syntax choices separated by vertical bars, from which you select one or none.
{ x | y | ... } *	Asterisk marked braces enclose a set of required syntax choices separated by vertical bars, from which you select a minimum of one.
[x | y | ...] *	Asterisk marked square brackets enclose optional syntax choices separated by vertical bars, from which you select one choice, multiple choices, or none.
&<1-n>	The argument or keyword and argument combination before the ampersand (&) sign can be entered 1 to n times.
#	A line that starts with a pound (#) sign is comments.

GUI conventions

Convention	Description
Boldface	Window names, button names, field names, and menu items are in Boldface. For example, the **New User** window opens; click **OK**.
>	Multi-level menus are separated by angle brackets. For example, **File** > **Create** >

Convention	Description
	Folder.

Symbols

Convention	Description
⚠ **WARNING!**	An alert that calls attention to important information that if not understood or followed can result in personal injury.
△ **CAUTION:**	An alert that calls attention to important information that if not understood or followed can result in data loss, data corruption, or damage to hardware or software.
ⓘ **IMPORTANT:**	An alert that calls attention to essential information.
NOTE:	An alert that contains additional or supplementary information.
TIP:	An alert that provides helpful information.

Network topology icons

Convention	Description
	Represents a generic network device, such as a router, switch, or firewall.
	Represents a routing-capable device, such as a router or Layer 3 switch.
	Represents a generic switch, such as a Layer 2 or Layer 3 switch, or a router that supports Layer 2 forwarding and other Layer 2 features.
	Represents an access controller, a unified wired-WLAN module, or the access controller engine on a unified wired-WLAN switch.
	Represents an access point.
	Represents a wireless terminator unit.
	Represents a wireless terminator.
	Represents a mesh access point.
	Represents omnidirectional signals.
	Represents directional signals.
	Represents a security product, such as a firewall, UTM, multiservice security gateway, or load balancing device.
	Represents a security module, such as a firewall, load balancing, NetStream, SSL VPN, IPS, or ACG module.

Examples provided in this document

Examples in this document might use devices that differ from your device in hardware model, configuration, or software version. It is normal that the port numbers, sample output, screenshots, and other information in the examples differ from what you have on your device.

Documentation feedback

You can e-mail your comments about product documentation to info@h3c.com.

We appreciate your comments.

Contents

1 Product models and technical specifications

Product models

H3C S9820-8C and S9820-8C-SAN switches are high-density intelligent 100G/400G switches developed for data centers, providing powerful hardware forwarding capacity and abundant data center features.

This document is applicable to the following switch models:

Product model	Product code
S9820-8C	LS-9820-8C
S9820-8C-SAN	LS-9820-8C-SAN

NOTE:

- To obtain the purchase information, see the product data sheet at https://www.h3c.com/en/Products_and_Solutions/InterConnect/Switches/ and pay attention to the switch product lifecycle management announcement at https://www.h3c.com/en/Support/Policy_Dynamics/Management_Strategy/Products_End_of_Life_Announcement/Switches/.
- For information about product and software compatibility, see the release notes.

Technical specifications

Table1-1 Technical specifications

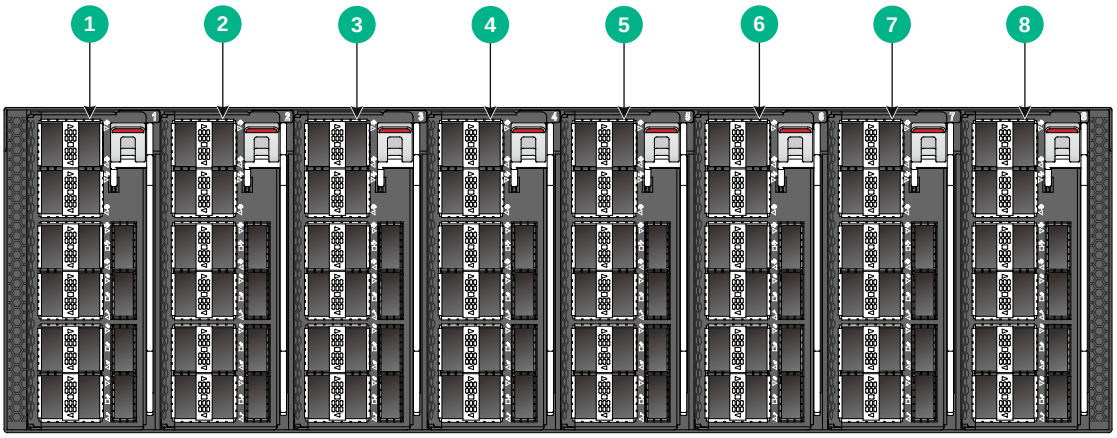
Item	S9820-8C/S9820-8C-SAN
Physical specifications	
Dimensions (H × W × D)	130.5 × 440 × 760 mm (5.14 × 17.32 × 29.92 in)
Dimensions (H × W × D, with package materials)	310 × 575 × 975 mm (12.20 × 22.64 × 38.39 in)
Weight (fully configured with fan modules, power supplies, and interface modules, excluding transceiver modules and cables)	≤ 45 kg (99.21 lb)
Technical specifications	
Processor	• S9820-8C: 4 cores, 2.2 GHz • S9820-8C-SAN: 8 cores, 2.2 GHz
DRAM memory	8 GB
NOR flash	32 MB *2 (primary and backup)
NAND flash	8GB eMMC

Item	S9820-8C/S9820-8C-SAN
Interface types and quantity	
Console port	• 1 × mini USB console port • 1 × serial console port
Management Ethernet port	• 1 × 10/100/1000BASE-T copper port • 1 × SFP port
USB port	1
IRF physical ports	Not supported
Fan modules, power supplies, and interface modules	
Power supply slot	4
Interface module slot	8
Fan module slot	5
Power supply specifications	
Power input	AC input and HVDC input
Power specifications	See "Power supplies"
Power consumption	
Typical power consumption (Fully configured with copper cables, at 50% load)	• Configured with LSWM116H interface modules: 921 W • Configured with LSWM116HC interface modules: 1132 W • Configured with LSWM1M4CD interface modules: 820 W
Maximum power consumption (Fully configured with transceiver modules, at 100% load)	• Configured with LSWM116H interface modules: 1818 W • Configured with LSWM116HC interface modules: 2030 W • Configured with LSWM1M4CD interface modules: 1655 W
Thermal consumption	
Typical thermal consumption	• Configured with LSWM116H interface modules: 3143 BTU/hr • Configured with LSWM116HC interface modules: 3862 BTU/hr • Configured with LSWM1M4CD interface modules: 2798 BTU/hr
Maximum thermal consumption	• Configured with LSWM116H interface modules: 6203 BTU/hr • Configured with LSWM116HC interface modules: 6927 BTU/hr • Configured with LSWM1M4CD interface modules: 5647 BTU/hr
Heat dissipation	
Heat dissipation method	Air cooling
Ventilation aisles	Front-to-rear (from the port side to the power supply side)
Reliability and availability	
Power supply redundancy	2+1 or 2+2 redundancy
Fan module redundancy	4+1 redundancy
Hot swapping	Power supplies and fan modules support hot swapping

Item	S9820-8C/S9820-8C-SAN
	Interface modules support hot swapping, but do not hot swap an interface module when the switch is starting up
Mean time between failure (MTBF) (year)	• S9820-8C: 38.8 • S9820-8C-SAN: 40.3
Mean time to repair (MTTR) (hour)	• S9820-8C: 1 • S9820-8C-SAN: 0.5
Availability	• S9820-8C: 99.999709% • S9820-8C-SAN: 99.999858%
Environment specifications	
Sound pressure level at 27°C (80.6°F)	65.6 dB(A)
Altitude	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Operating temperature	0°C to 45°C (32°F to 113°F) **Note:** The allowed maximum temperature decreases by 0.33 °C (32.59°F) as the altitude increases by 100 m (328.08 ft) from 0 m (0 ft). If you use a QSFP-100G-ZR4-WDM1300 transceiver module, the operating temperature must be in the range of 0°C to 40°C (32°F to 104°F).
Storage temperature	–40°C to +70°C (–40°F to +158°F)
Humidity	5% RH to 95% RH, noncondensing
Compliance	
Product compliance	• Safety standards • EMC standards • Environmental and eco-friendly standards

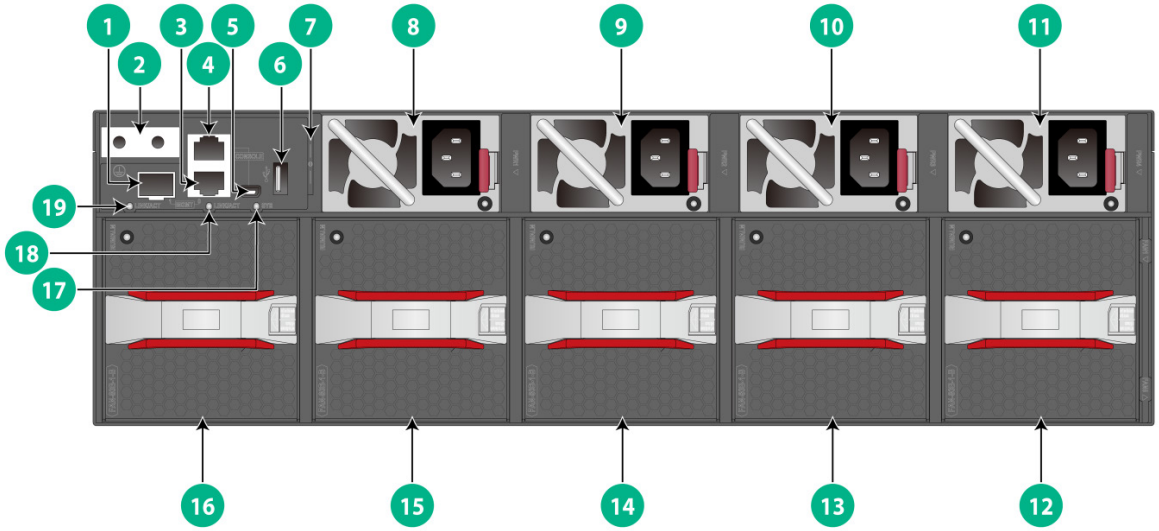
2 Chassis views

Figure2-1 Front panel



(1) Interface module 1	(2) Interface module 2
(3) Interface module 3	(4) Interface module 4
(5) Interface module 5	(6) Interface module 6
(7) Interface module 7	(8) Interface module 8

Figure2-2 Rear panel



(1) Fiber management Ethernet port (numbered 1)	(2) Grounding point
(3) Copper management Ethernet port (numbered 0)	(4) Serial console port
(5) Mini USB console port	(6) USB port
(7) Serial label pull tab	(8) Power supply 1
(9) Power supply 2	(10) Power supply 3
(11) Power supply 4	(12) Fan module 5

(13) Fan module 4	(14) Fan module 3
(15) Fan module 2	(16) Fan module 1
(17) System status LED (SYS)	(18) Copper management Ethernet port LED (LINK/ACT)
(19) Fiber management Ethernet port LED (LINK/ACT)	

The ESN serial number and MAC address of the switch can be found on the serial label pull tab.

The switch came with power supply slots PWR1 and PWR2 empty and power supply slots PWR3 and PWR4 each installed with a filler panel. You can install two to four power supplies for the switch as needed. In Figure2-2, PSR1600B-12A-B power supplies are installed in the four power supply slots.

The switch came with the five fan module slots empty. You must install five fan modules of the same model for the switch. In Figure2-2, FAN-80B-1-B fan modules are installed in the five fan module slots.

The switch came with the eight interface module slots each installed with a filler panel. You can install one to eight interface modules for the switch as needed. In Figure2-1, LSWM116H interface modules are installed in the eight interface module slots.

The switch supports shipping with fan modules and power supplies installed. To purchase a switch preinstalled with fans modules and power supplies, contact marketing staff.

3 FRUs

The switch uses modular design. Table3-1 describes the FRUs available for the switch.

Table3-1 FRUs available for the switch

FRUs	S9820-8C/S9820-8C-SAN
Power supplies	
PSR1600B-12A-B	Yes
PSR2000B-12D-B	Yes, in R6715P01 and later versions
Fan modules	
FAN-80B-1-B	Yes
Interface modules	
LSWM116H	Yes
LSWM116HC	Yes, in Release 6635 and later versions
LSWM1M4CD	Yes, in Release 6635 and later versions

The switch can operate correctly with two power supplies. You can install three power supplies for 2+1 redundancy or four power supplies for 2+2 redundancy.

To ensure heat dissipation, make sure all fan module slots are installed with fan modules and install fan modules of the same model on the switch as a best practice.

Power supplies

WARNING!

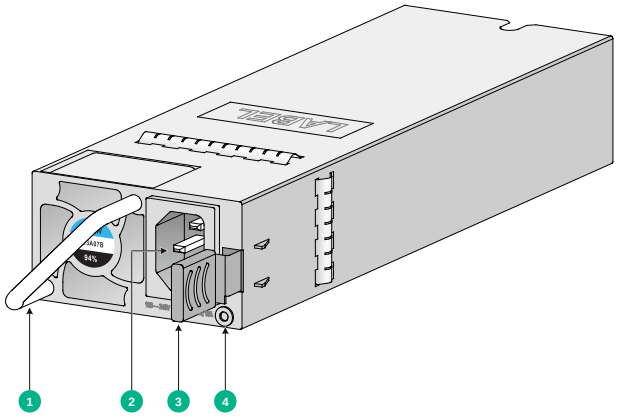
When the switch has power supplies in redundancy, you can replace a power supply without powering off the switch. To avoid device damage and personal injury, make sure the power supply is powered off before you replace it.

The switch uses removable power supplies.

1600W AC power supply (PSR1600B-12A-B)

View

Figure3-1 PSR1600B-12A-B power supply



(1) Handle	(2) AC power receptacle
(3) Latch	(4) Power supply alarm LED

For information about the power supply alarm LED, see "Power supply alarm LED."

Features

PSR1600B-12A-B is a power supply with AC input and DC output. It can provide up to 1600 W of output. Table3-2 describes the features provided by the PSR1600B-12A-B power supply.

Table3-2 Features provided by the PSR1600B-12A-B power supply

Feature	Description
Protection function	Protection for input overcurrent, input undervoltage, output overcurrent, output overvoltage, output shortcircuit, and overtemperature.
Support for redundancy	The power supplies can be connected in parallel to achieve N+1 or N+N redundancy and load balancing.
Support for hot swapping	You can install or remove a power supply when the switch is operating correctly.

Technical specifications

Table3-3 Technical specifications

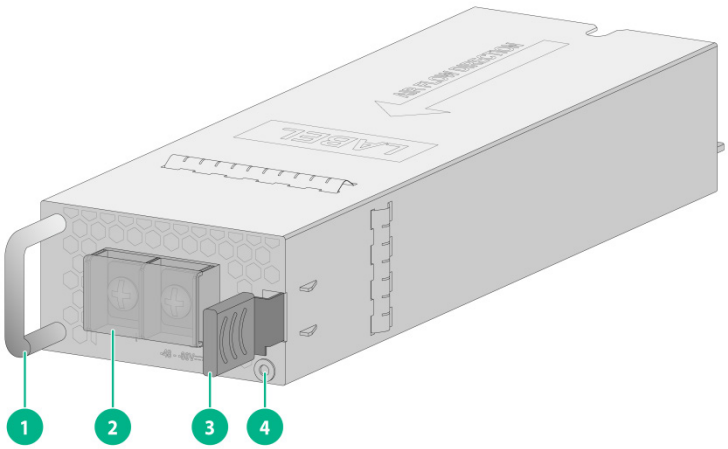
Item	Specification
Dimensions (H × W × D)	40.2 × 73.5 × 253.8 mm (1.58 × 2.89 × 9.99 in), including the handle
Weight	1.09 kg (2.40 lb)
Rated AC input voltage range	100 VAC to 240 VAC @ 50 or 60 Hz
Max AC input voltage range	90 VAC to 290 VAC @ 47 to 63 Hz
Rated HVDC input voltage	240 VDC
Max HVDC input voltage range	180 VDC to 320 VDC
Rated input current	10.5 A

Item	Specification
Rated output current	131 A
Rated output voltage	12 V
Rated output power	1600 W
Melting current of power supply fuse	10 A/ 250 V

2000W DC power supply (PSR2000-12D-B)

View

Figure3-2 PSR2000-12D-B power supply



(1) Handle	(2) Protection cover
(3) Latch	(4) Power supply alarm LED

For information about the power supply alarm LED, see "Power supply alarm LED."

Features

PSR2000-12D-B is a power supply with DC input and DC output. It can provide up to 2000 W of output. Table3-4 describes the features provided by the PSR2000-12D-B power supply.

Table3-4 Features provided by the PSR2000-12D-B power supply

Feature	Description
Protection function	Protection for input undervoltage, output undervoltage, output overvoltage, shortcircuit, output overcurrent, and overtemperature.
Support for redundancy	The power supplies can be connected in parallel to achieve M+N redundancy and load balancing.
Support for hot swapping	You can install or remove a power supply when the switch is operating correctly.

Technical specifications

Table3-5 Technical specifications

Item	Specification
Dimensions (H × W × D)	40.2 × 73.5 × 225 mm (1.58 × 2.89 × 8.86 in), including the handle
Weight	1.07 kg (2.36 lb)
Rated input voltage range	–48 VDC to –60 VDC
Max input voltage range	–40 VDC to –72 VDC
Rated input current	60 A
Rated output current	12 V/167 A, 12 VSB/2 A
Rated output voltage	12 V
Rated output power	2000 W
Melting current of power supply fuse	80 A

Fan modules

△ **CAUTION:**

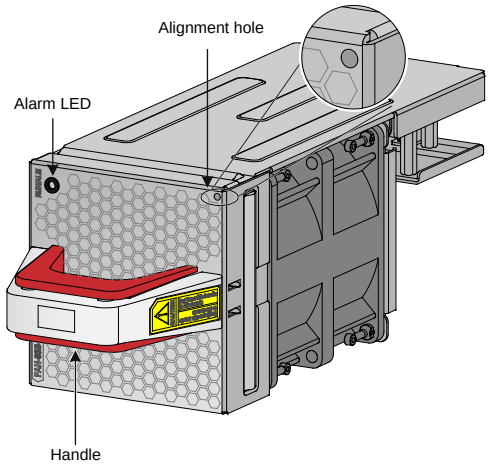
The switch has five fan module slots. To ensure good ventilation of the switch, follow these guidelines to install and remove fan modules:

- The switch comes with the fan module slots empty. As a best practice to ensure adequate heat dissipation, install fan modules of the same model on the switch. Before powering on the switch, make sure the number of installed fan modules meets the minimum requirement.
- Make sure all slots have a module or filler panel installed when the switch is operating.
- If multiple fan modules fail on an operating switch, do not remove the fan modules at the same time. Replace the fan modules one after another and finish replacing each fan module within 3 minutes.

FAN-80B-1-B

View

Figure3-3 FAN-80B-1-B fan module



For information about the alarm LED, see "Fan module alarm LED."

Features

The FAN-80B-1-B fan module draws air from the port side to the power supply side. The fan module is small, hot swappable, and can automatically adjust the fan speed according to the device temperature.

Technical specifications

Table3-6 Technical specifications

Item	Specification
Dimensions (H × W × D)	84 × 81 × 240 mm (3.31 × 3.19 × 9.45 in), including the handle
Fans	1
Weight	0.9 kg (1.98 lb)
Airflow direction	Air exhausted from the fan module faceplate
Max fan speed	12800 R.P.M
Max airflow	130 CFM (3.68 m^3/min)
Operating voltage	12 V
Max power consumption	102 W

Interface modules

The switch provides eight interface module slots. Table3-7 describes the interface modules available for the switch.

You can install an interface module in any interface module slot on the switch.

You can install or remove an interface module when the switch is operating correctly. Do not install or remove an interface module on a starting switch.

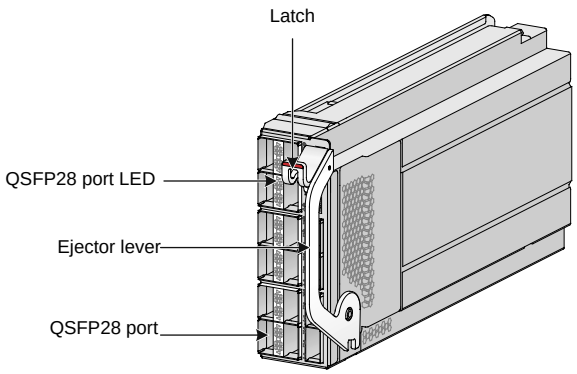
Table3-7 Available interface modules

Model	Description	Port type and number
LSWM116H	16-port QSFP28 Ethernet optical interface module	16 × QSFP28 ports
LSWM116HC	16-port QSFP28 Ethernet optical interface module	16 × QSFP28 ports
LSWM1M4CD	4-port 400GBASE Ethernet optical interface module(QSFP-DD)	4 × QSFP-DD ports

LSWM116H

The LSWM116H interface module provides 16 QSFP28 ports.

Figure3-4 LSWM116H front panel



Ports and LEDs

For information about the QSFP28 port and modules and cables available for the port, see "QSFP28 port."

For information about the QSFP28 port LED, see "QSFP28 port LED."

Technical specifications

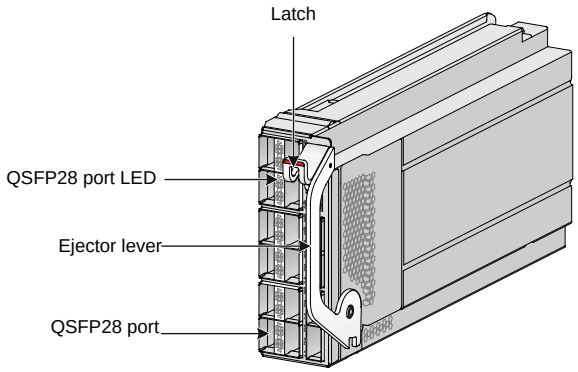
Table3-8 Technical specifications

Item	Specifications
Dimensions (H × W × D)	50 × 127.3 × 262.2 mm (1.97 × 5.01 × 10.32 in), including the connector but excluding the ejector lever
Weight	1.4 kg (3.09 lb)
Power consumption (typical)	52 W
Power consumption (fully loaded)	87 W

LSWM116HC

The LSWM116HC interface module provides 16 QSFP28 ports.

Figure3-5 LSWM116HC front panel



Ports and LEDs

For information about the QSFP28 port and modules and cables available for the port, see "QSFP28 port."

For information about the QSFP28 port LED, see "QSFP28 port LED."

Technical specifications

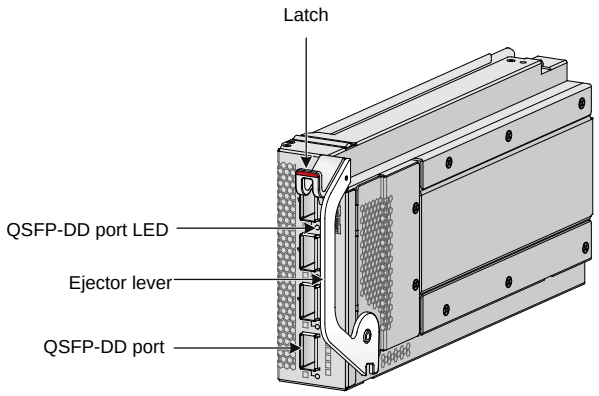
Table3-9 Technical specifications

Item	Specifications
Dimensions (H × W × D)	50 × 127.3 × 262.2 mm (1.97 × 5.01 × 10.32 in), including the connector but excluding the ejector lever
Weight	1.5 kg (3.31 lb)
Power consumption (typical)	78 W
Power consumption (fully loaded)	113 W

LSWM1M4CD

The LSWM1M4CD interface module provides 4 QSFP-DD ports.

Figure3-6 LSWM1M4CD front panel



Ports and LEDs

For information about the QSFP-DD port and modules and cables available for the port, see "QSFP-DD port."

For information about the QSFP-DD port LED, see "QSFP-DD port LED."

Technical specifications

Table3-10 Technical specifications

Item	Specifications
Dimensions (H × W × D)	50 × 127.3 × 262.2 mm (1.97 × 5.01 × 10.32 in), including the connector but excluding the ejector lever
Weight	1.3 kg (2.87 lb)
Power consumption (typical)	39 W
Power consumption (fully loaded)	87 W

4 Ports

As a best practice, use H3C transceiver modules and cables for the switch. H3C transceiver modules and cables are subject to change over time. For the most up-to-date list of H3C transceiver modules and cables, contact H3C Support or marketing staff.

For information about the specifications of H3C transceiver modules and cables, see *H3C Transceiver Modules User Guide*.

The switch uses high-power ports in high density. Bringing up the ports simultaneously takes a comparatively long time. To reduce the time to bring up a port, the system does not turn off the laser transmitter on the transceiver module when shutting down the port.

Console port

The switch has a serial console port and a mini USB console port.

Table4-1 Console port specifications

Item	Serial console port	Mini USB console port
Connector type	RJ-45	USB mini-Type B
Compliant standard	EIA/TIA-232	USB 2.0
Operating mode	Duplex Universal Asynchronous Receiver/Transmitter (duplex UART)	Mini USB interface Universal Asynchronous Receiver/Transmitter (UART)
Transmission baud rate	9600 bps (default) to 115200 bps	
Services	• Provides connection to an ASCII terminal. • Provides connection to the serial port of a local terminal (a PC for example) or remote terminal (through a pair of modems) running a terminal emulation program.	• Provides connection to an ASCII terminal. • Provides connection to the USB port of a local terminal (a PC for example) running a terminal emulation program.

A console port and a mini USB console port cannot be connected simultaneously. If both ports are connected, only the mini USB console port takes effect.

Management Ethernet port

The switch has two management Ethernet ports: a copper management port and an SFP management port. You can connect the ports to a local PC for software loading and debugging or to a remote management station for remote management.

Table4-2 Management Ethernet port specifications

Item	Specification
Connector type	• 10/100/1000BASE-T management port: RJ-45. • SFP management port: LC.

Item	Specification
Compliant standard	• 10/100/1000BASE-T management port: IEEE802.3ab. • SFP management port: IEEE802.3z.

Port transmission rate, duplex mode, and auto MDI/MDI-X	• 10/100/1000BASE-T management port:
	  ○ 10/100 Mbps, half/full duplex, auto MDI/MDI-X.
	  ○ 1000 Mbps, full duplex, auto MDI/MDI-X.
	• SFP management port: 1000/100 Mbps, full duplex.

Transmission medium and max transmission distance	• 10/100/1000BASE-T management port: 100 m (328.08 ft) over category-5 UTP cable. • SFP management port: See FE SFP transceiver modules in Table4-3 and GE SFP transceiver modules in Table4-4.
Functions and services	Software upgrade and network management.

Table4-3 FE SFP transceiver modules available for the SFP management port

FE SFP transceiver module	Central wavelength (nm)	Connector	Fiber type and diameter (μm)	Max transmission distance
SFP-FE-SX-MM1310-A	1310	LC	Multi-mode, 50/125	2 km (1.24 miles)
			Multi-mode, 62.5/125	
SFP-FE-LX-SM1310-A	1310	LC	Single-mode, 9/125	15 km (9.32 miles)

Table4-4 GE SFP transceiver modules available for the SFP management port

GE SFP transceiver module	Central wavelength (nm)	Connector	Cable/Fiber type and diameter (μm)	Modal bandwidth (MHz × km)	Max transmission distance
SFP-GE-T SFP-GE-T-D	N/A	RJ-45	Twisted pair cable	N/A	100 m (328.08 ft)
SFP-GE-SX-MM850-A SFP-GE-SX-MM850-D	850	LC	Multi-mode, 50/125	500	550 m (1804.46 ft)
				400	500 m (1640.42 ft)
			Multi-mode, 62.5/125	200	275 m (902.23 ft)
				160	200 m (656.17 ft)
SFP-GE-LX-SM1310-A	1310	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
			Multi-mode, 50/125	500 or 400	550 m (1804.46 ft)
			Multi-mode, 62.5/125	500	550 m (1804.46 ft)
SFP-GE-LX-SM1310-D	1310	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)

USB port

The switch has one OHCI-compliant USB 2.0 port that can upload and download data at a rate up to 480 Mbps. You can use this USB port to access the file system on the flash of the switch, for example, to upload or download application and configuration files.

The USB port supplies power as per USB 2.0 specifications. Use only USB 2.0-compliant USB devices for the USB port. The port might not identify USB devices that are not compliant with USB 2.0.

NOTE:

USB devices from different vendors vary in compatibilities and drivers. H3C does not guarantee correct operation of USB devices of all vendors on the switch. If a USB device fails to operate on the switch, replace it with one from another vendor.

QSFP28 port

Table4-5 QSFP28 port specifications

Item	Specification
Interface name	40 GE/100 GE QSFP28 Ethernet optical interface
Product compatibility	• LSWM116H interface module: 16 QSFP28 ports • LSWM116HC interface module: 16 QSFP28 ports
Connector	LC/MPO
Description	The 40 GE/100 GE QSFP28 Ethernet optical interfaces are mainly used for transmitting and receiving 40 GE/100 GE Ethernet optical interface services
Compliant standard	IEEE802.3ba
Optical interface attribute	Depends on transceiver modules and cables
Operating mode	Full duplex
Transceiver modules and cables	• 100G QSFP28 modules • 100G QSFP28 copper cables • 100G QSFP28 fiber cables (AOC) • 100G QSFP28 to 4*25G SFP28 copper cables • 40G QSFP+ modules • 40G QSFP+ copper cables • 40G QSFP+ fiber cables (AOC) • 40G QSFP+ to 4*10G SFP+ copper cables **NOTE:** For information about support for transceiver modules and cables of a QSFP28 port, see *H3C S9820-64H & S9820-8C & S9820-8C-SAN Switches Transceiver Module Compatibility Matrix*.
Support for interface splitting	• LSWM116H: Interface splitting is not supported in the current software version. For the most recent support information, see the most up-to-date release notes (software feature changes). For more information, contact H3C Support or marketing staff. • LSWM116HC: Interface splitting is not supported.
Other restrictions	A 100G port on the device might fail to come up when a 100G DAC cable is used to connect the port to an Intel network card, for example, Intel (rainbow) Eth

	E810-CQDA2. As a best practice, use an AOC cable or transceiver module for connection to the Intel network card.

QSFP-DD port

Table4-6 QSFP-DD port specifications

Item	Specification
Interface name	400 GE QSFP-DD Ethernet optical interface
Product compatibility	LSWM1M4CD interface module: 4 QSFP-DD ports
Connector	LC/MPO
Description	The 400 GE QSFP-DD Ethernet optical interfaces are mainly used for transmitting and receiving 400 GE Ethernet optical interface services
Compliant standard	IEEE 802.3bs
Optical interface attribute	Depends on transceiver modules and cables
Operating mode	Full duplex
Transceiver modules and cables	• 400G QSFP-DD modules • 400G QSFP-DD copper cables • 400G 1-to-2 cables (being developed) **NOTE:** For information about support for transceiver modules and cables of a QSFP-DD port, see *H3C S9820-64H & S9820-8C & S9820-8C-SAN Switches Transceiver Module Compatibility Matrix*.
Support for splitting	A 400G QSFP-DD port can be split into two 200G ports.

5 LEDs

System status LED

The system status LED shows the operating status of the switch.

Table5-1 System status LED description

LED mark	Status	Description
SYS	Steady green	The switch is operating correctly.
	Flashing green	The switch is performing power-on self-test (POST).
	Steady red	The system has failed to pass POST or a fault has occurred.
	Flashing blue (3 Hz)	Helps identifying the switch. To identify the switch location, execute the **`locator blink`** *`blink-time`* command. This LED will flash blue at 3 Hz.
	Off	The switch is powered off or has failed to start up.

QSFP28 port LED

Table5-2 QSFP28 port LED description

LED status	Description
Steady green	A transceiver module or cable has been correctly installed in the port. The port has a link and is operating at 100 Gbps.
Flashing green	The port is sending or receiving data at 100 Gbps.
Steady yellow	A transceiver module or cable has been correctly installed in the port. The port has a link and is operating at 40 Gbps.
Flashing yellow (3 Hz)	The port is sending or receiving data at 40 Gbps.
Off	No transceiver module or cable has been installed in the port, or no link is present on the port.

QSFP-DD port LED

Table5-3 QSFP-DD port LED description

LED status	Description
Steady green	A transceiver module is installed in the port. The port is operating at its maximum speed of 400 Gbps, and a link is present on the port.
Flashing green	The port is sending or receiving data at its maximum speed of 400 Gbps.
Steady yellow	A transceiver module is installed in the port. The port is operating at a speed lower than the maximum speed.

LED status	Description
Flashing yellow (3 Hz)	The port is sending or receiving data at a speed lower than the maximum speed.
Off	No transceiver module is installed in the port, or no link is present on the port.

Management Ethernet port LEDs

The switch provides a LINK/ACT LED for each management Ethernet port to indicate their operating status.

Table5-4 Management Ethernet port LED description

LED mark	Status	Description
LINK/ACT	Off	No link is present on the port.
	Steady green	The port is operating at 1000 Mbps.
	Flashing green	The port is receiving or sending data at 1000 Mbps.
	Steady yellow	The port is operating at 100 Mbps.
	Flashing yellow	The port is receiving or sending data at 100 Mbps.

Power supply alarm LED

Table5-5 Description for the alarm LED on a PSR1600B-12A-B power supply

Status	Description
Steady green	The power supply is operating correctly and in active state.
Flashing green at 1 Hz	The power supply is operating correctly and in standby state.
Flashing green at 2 Hz	The power supply software is being upgraded.
Steady amber	The power supply is faulty or has entered self-protection mode.
Flashing amber at 1 Hz	An alarm has occurred on the power supply when one of the following conditions exists on the power supply but the power supply does not enter protection state: • Output overvoltage. • Output undervoltage. • Output overcurrent. • Output power overload. • Overtemperature.
Flashing amber at 2 Hz	The power supply does not have input power but the power supplies working in parallel with it have input power.
Off	Neither this power supply nor power supplies working in parallel with it have input power.

Table5-6 Description for the alarm LED on a PSR2000-12D-B power supply

Status	Description
Steady green	The power supply is operating correctly.

Status	Description
Flashing green (once per second)	The power supply is updating software.
Flashing green (once every two seconds)	The power supply has correct power input and is in standby state with 12 V standby output and without 12 V main output.
Steady yellow	The power supply is faulty.
Flashing yellow (once per second)	The power supply does not have power input, but other power supplies have correct power input.
Flashing yellow (once every two seconds)	The power supply is operating correctly, but an alarm has occurred (such as input undervoltage, output overcurrent, and overtemperature).
Off	No power input.

Fan module alarm LED

A FAN-80B-1-B fan module provides an alarm LED.

Table5-7 Description for the alarm LED on a FAN-80B-1-B fan module

Status	Description
Steady green	The fan module is operating correctly.
Steady red	The fan module is faulty.
Off	The fan module is not installed securely or no power is present.

6 Cooling system

CAUTION:

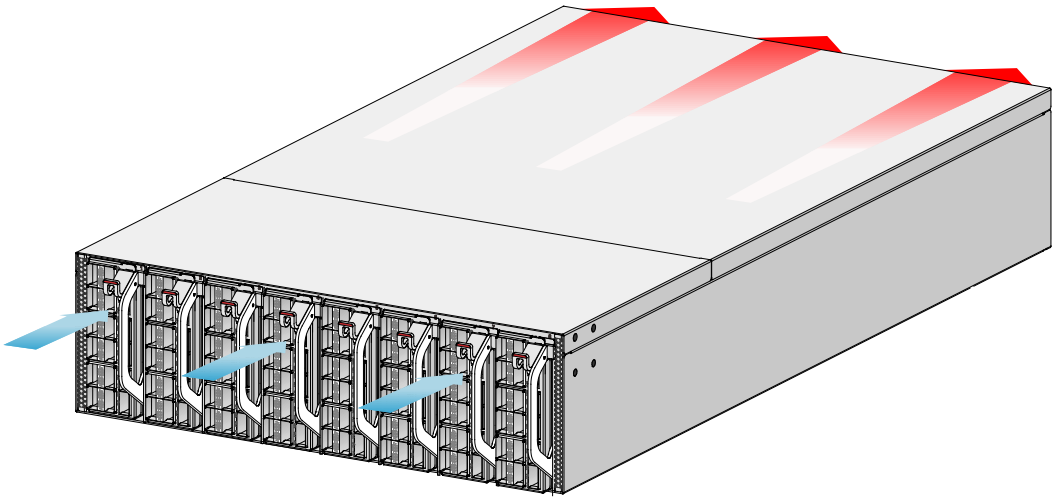
The chassis and power supplies use separate air aisles. Make sure the two aisles are not blocked when the switch is operating.

The switch uses a highly efficient front-rear air aisle cooling system to ensure adequate heat dissipation and improve system reliability. Consider the ventilation design at the installation site when you plan the installation location for the switch.

Table6-1 Fan module options for the switch

Available fan module	Airflow direction of the chassis
FAN-80B-1-B	From the port side to the power supply side

Figure6-1 Airflow from the port side to the power supply side (with FAN-80B-1-B fan modules)



7 Cable routing recommendations

You can purchase one cable management frame for the switch and install it on the rack posts immediately above or below the switch as required. For more organized cabling, you can purchase two cable management frames so that the switch has a cable management frame installed both above and below it.

Route the signal cables along the left or right side of the cable management frame as required. Cable routing in Figure7-1 is for your reference.

Figure7-1 Cable routing