

# H3C S9820-64H Switch

## Hardware Information and Specifications

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**Environmental protection**

This product has been designed to comply with the environmental protection requirements. The storage, use, and disposal of this product must meet the applicable national laws and regulations.

# Preface

*H3C S9820-64H Switch Hardware Information and Specifications* describes the product models, technical specifications, removable components, ports, LEDs, and cooling system of the S9820-64H switch.

This preface includes the following topics about the documentation:

- [Audience](#).
- [Conventions](#).
- [Documentation feedback](#).

## Audience

This documentation is intended for:

- Network planners.
- Field technical support and servicing engineers.
- Network administrators working with the S9820-64H switch.

## Conventions

The following information describes the conventions used in the documentation.

### Command conventions





Convention	Description
<b>Boldface</b>	<b>Bold</b> text represents commands and keywords that you enter literally as shown.
<i>Italic</i>	<i>Italic</i> 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
<b>Boldface</b>	Window names, button names, field names, and menu items are in Boldface. For example, the <b>New User</b> window opens; click <b>OK</b> .
>	Multi-level menus are separated by angle brackets. For example, <b>File &gt; Create &gt;</b>

Convention	Description
	Folder.

## Symbols

Convention	Description
 <b>WARNING!</b>	An alert that calls attention to important information that if not understood or followed can result in personal injury.
 <b>CAUTION:</b>	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.
 <b>IMPORTANT:</b>	An alert that calls attention to essential information.
<b>NOTE:</b>	An alert that contains additional or supplementary information.
 <b>TIP:</b>	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](mailto:info@h3c.com).

We appreciate your comments.

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# 1 Product model and technical specifications

## Product model

The H3C S9820-64H switch is a high-density intelligent 100G switch developed for data center and high-end campus networks, providing powerful hardware forwarding capacity and abundant data center features.

The switch provides the following ports and removable components:

- 100G QSFP28 ports.
- Two 1G management Ethernet ports (one fiber port and one copper port).
- Removable fan trays in redundancy mode. By using different fan trays, you can change the airflow direction of the chassis to adapt to ventilation needs.
- Removable power supplies in redundancy mode.

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**NOTE:**

The S9820-64H switch model is available with multiple product codes. To identify the product code of your switch, use the product barcode on its rear panel. The S9820-64H switch model is available with the LS-9820-64H or LS-9820-64H-H1 product code. If the switch is referred to as the S9820-64H switch, the information applies to the S9820-64H switch with either of the codes. If the switch is referred to as the S9820-64H (LS-9820-64H) or LS-9820-64H switch, the information applies only to the S9820-64H switch with the LS-9820-64H product code.

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## Technical specifications

**Table1-1 Technical specifications**

Item	S9820-64H
Product code	<ul style="list-style-type: none"><li>• LS-9820-64H</li><li>• LS-9820-64H-H1</li></ul>
Dimensions (H × W × D)	88.1 × 440 × 540 mm (3.47 × 17.32 × 21.26 in)
Weight	≤ 27 kg (59.52 lb) (including three fan trays and four power supplies, excluding transceiver modules and cables)
Console port	<ul style="list-style-type: none"><li>• 1 × mini USB console port</li><li>• 1 × serial console port</li></ul>
Management Ethernet port	<ul style="list-style-type: none"><li>• 1 × 10/100/1000BASE-T copper port</li><li>• 1 × SFP port</li></ul>
USB port	1
QSFP28 port	64
Fan tray slot	3
Power supply slot	4
Minimum power consumption	<ul style="list-style-type: none"><li>• Dual AC inputs: 336 W</li></ul>

Item	S9820-64H
(For the power consumption data collection standard, see <a href="#">Table1-2</a> )	<ul style="list-style-type: none"> <li>• Triple AC inputs: 349 W</li> <li>• Quadruple AC inputs: 365 W</li> <li>• Dual DC inputs: 329 W</li> <li>• Triple DC inputs: 338 W</li> <li>• Quadruple DC inputs: 352 W</li> </ul>
Typical power consumption (For the power consumption data collection standard, see <a href="#">Table1-2</a> )	<ul style="list-style-type: none"> <li>• Dual AC inputs: 519 W</li> <li>• Triple AC inputs: 523 W</li> <li>• Quadruple AC inputs: 537 W</li> <li>• Dual DC inputs: 508 W</li> <li>• Triple DC inputs: 511 W</li> <li>• Quadruple DC inputs: 521 W</li> </ul>
Maximum power consumption (For the power consumption data collection standard, see <a href="#">Table1-2</a> )	<ul style="list-style-type: none"> <li>• Dual AC inputs: 935 W</li> <li>• Triple AC inputs: 934 W</li> <li>• Quadruple AC inputs: 948 W</li> <li>• Dual DC inputs: 906 W</li> <li>• Triple DC inputs: 904 W</li> <li>• Quadruple DC inputs: 914 W</li> </ul>
Chassis leakage current compliance	<ul style="list-style-type: none"> <li>• UL60950-1</li> <li>• EN60950-1</li> <li>• IEC60950-1</li> <li>• GB4943.1</li> </ul>
Operating 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) <b>Note:</b> 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).
Operating humidity	5% to 95%, noncondensing
Storage altitude	–60 m to +5000 m (–196.85 ft to +16404.20 ft)
Storage temperature	–40°C to +70°C (–40°F to +158°F)
Storage humidity	5% RH to 95% RH, noncondensing
Fire resistance compliance	<ul style="list-style-type: none"> <li>• UL60950-1</li> <li>• EN60950-1</li> <li>• IEC60950-1</li> <li>• GB4943.1</li> </ul>

**Table1-2 Power consumption data collection standard**

Item	Minimum power consumption	Typical power consumption	Maximum power consumption
Configuration	<ul style="list-style-type: none"> <li>• Two power supplies</li> <li>• No transceiver modules/cables installed in ports</li> </ul>	<ul style="list-style-type: none"> <li>• Two power supplies</li> <li>• Fully configured with copper cables</li> </ul>	<ul style="list-style-type: none"> <li>• Two power supplies</li> <li>• Fully configured with transceiver modules</li> </ul>
Load	N/A	50% load	100% load



# 2 Chassis views

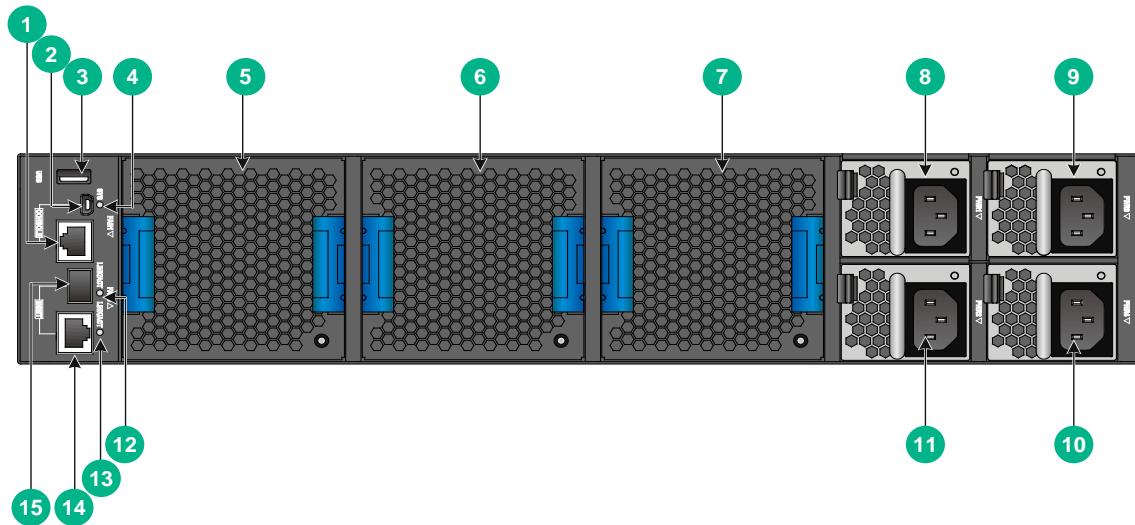
Figure2-1 S9820-64H front panel



(1) QSFP28 port

(2) QSFP28 port LED

Figure2-2 S9820-64H rear panel



(1) Serial console port

(2) Mini USB console port

(3) USB port

(4) System status LED (SYS)

(5) Fan tray 1

(6) Fan tray 2

(7) Fan tray 3

(8) Power supply 1

(9) Power supply 3

(10) Power supply 4

(11) Power supply 2

(12) Fiber management Ethernet port LED (LINK/ACT)

(13) Copper management Ethernet port LED (LINK/ACT)

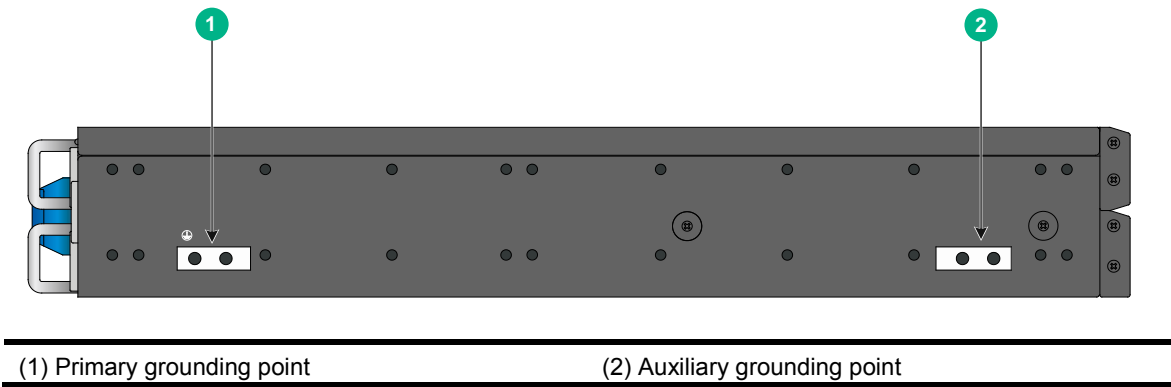
(14) Copper management Ethernet port  
(numbered 0)

(15) Fiber management Ethernet port (numbered 1)

The switch came with power supply slots PWR2 and PWR4 empty and power supply slots PWR1 and PWR3 installed with filler panels. You can install two to four power supplies for the switch as needed. In [Figure2-2](#), LSVM1AC650 AC power supplies are installed in the four power supplies slots.

The switch came with the three fan tray slots empty. You must install three fan trays of the same model for the switch. In [Figure2-2](#), LSWM1BFANSC fan trays are installed in the three fan tray slots. The switch supports shipping with fan trays and power supplies installed. To purchase a switch preinstalled with fans trays and power supplies, contact marketing staff.

**Figure2-3 S9820-64H left panel**



# 3 Removable components

The switch uses removable power supplies and fan trays. [Table3-1](#) describes the removable components available for the switch.

**Table3-1 Removable components available for the switch**

Removable components	Part No.	S9820-64H
<b>Power supplies</b>		
LSVM1AC650	0231A0QM	Yes
LSVM1DC650	0231A0QP	Yes
<b>Fan trays</b>		
LSWM1BFANSC	0231A2Y7	Yes
LSWM1BFANSC-SN	0231AG9G	Yes, in Release 6616 and later Release versions. For the support of ESS and Feature versions, contact H3C Support.
LSWM1BFANSCB	0231A2Y6	Yes
LSWM1BFANSCB-SN	0231AG9K	Yes, in Release 6616 and later Release versions. For the support of ESS and Feature versions, contact H3C Support.

**NOTE:**

The system can read electronic label information from the LSWM1BFANSC-SN and LSWM1BFANSCB-SN fan trays.

## 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 can operate correctly with two power supplies. You can install three or four power supplies on the switch for 2+1 or 2+2 redundancy, respectively.

You can install both LSVM1AC650 and LSVM1DC650 power supplies on the switch.

**Table3-2 Power supply specifications**

Power supply model	Specifications	Remarks
LSVM1AC650	<ul style="list-style-type: none"><li>Rated AC input voltage: 100 VAC to 240 VAC @ 50 Hz or 60 Hz</li><li>Max AC input voltage: 90 VAC to 264 VAC @ 47 Hz to 63 Hz</li><li>Rated HVDC input voltage: 240 VDC</li></ul>	For more information about the power supplies, see <i>H3C LSVM1AC650 &amp; LSVM1DC650 Power Modules User Manual</i> .

Power supply model	Specifications	Remarks
	<ul style="list-style-type: none"> <li>Max HVDC input voltage: 190 VDC to 290 VDC</li> <li>Max output power: 650 W</li> <li>Melting current of power supply fuse: 10 A, 250 V</li> </ul>	
LSVM1DC650	<ul style="list-style-type: none"> <li>Rated input voltage: -40 VDC to -60 VDC</li> <li>Max input voltage: -40 VDC to -72 VDC</li> <li>Max output power: 650 W</li> <li>Melting current of power supply fuse: 30 A, 250 V</li> </ul>	

## Fan trays



### CAUTION:

For adequate heat dissipation, you must install three fan trays of the same model for the switch.

**Table3-3 Fan tray specifications**

Fan tray model	Item	Specifications
<ul style="list-style-type: none"> <li>LSWM1BFANSC/L SWM1BFANSC-SN (air intake on fan tray panel)</li> <li>LSWM1BFANSCB/ LSWM1BFANSCB- SN (air exhaust on fan tray panel)</li> </ul>	Dimensions (including the fan tray handle)	80 × 80 × 232.6 mm (3.15 × 3.15 × 9.16 in)
	Fan speed	13300 R.P.M
	Max airflow	120 CFM (3.40 m <sup>3</sup> /min)
	Maximum power consumption	57 W
	Documentation reference	<i>H3C LSWM1BFANSC &amp; LSWM1BFANSCB Fan Trays User Guide</i> <i>H3C LSWM1BFANSC-SN &amp; LSWM1BFANSCB-SN Fan Trays User Guide</i>

# 4 Ports and LEDs

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 and views of H3C transceiver modules and cables, see *H3C Transceiver Modules User Guide*.

## Ports

### Console port

The switch has two console ports: a serial console port and a mini USB console port.

**Table4-1 Console port specifications**

Item	Console port	Mini USB console port
Connector type	RJ-45	USB mini-Type B
Compliant standard	EIA/TIA-232	USB 2.0
Transmission baud rate	9600 bps (default) to 115200 bps	
Services	<ul style="list-style-type: none"><li>Provides connection to an ASCII terminal.</li><li>Provides connection to the serial port of a local or remote (through a pair of modems) PC running terminal emulation program.</li></ul>	<ul style="list-style-type: none"><li>Provides connection to an ASCII terminal.</li><li>Provides connection to the USB port of a local PC running terminal emulation program.</li></ul>

### Management Ethernet port

The switch has two management Ethernet ports: a copper management port and a 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	<ul style="list-style-type: none"><li>10/100/1000BASE-T management port: RJ-45.</li><li>SFP management port: LC.</li></ul>
Port transmission rate	<ul style="list-style-type: none"><li>10/100/1000BASE-T management port:<ul style="list-style-type: none"><li>10/100 Mbps, half/full duplex, MDI/MDI-X auto-sensing.</li><li>1000 Mbps, full duplex, MDI/MDI-X auto-sensing.</li></ul></li><li>SFP management port: 1000/100 Mbps, full duplex.</li></ul>
Transmission medium and max transmission distance	<ul style="list-style-type: none"><li>10/100/1000BASE-T management port: 100 m (328.08 ft) over category-5 UTP cable.</li><li>SFP management port: See FE SFP transceiver modules in <a href="#">Table4-3</a> and GE SFP transceiver modules in <a href="#">Table4-4</a>.</li></ul>

Item	Specification
Functions and services	Software upgrade and network management.

## FE SFP modules

**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 Multi-mode, 62.5/125	2 km (1.24 miles)
SFP-FE-LX-SM1310-A	1310	LC	Single-mode, 9/125	15 km (9.32 miles)
SFP-FE-LH40-SM1310	1310	LC	Single-mode, 9/125	40 km (24.86 miles)

**Table4-4 GE SFP transceiver modules available for the 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-M M850-A SFP-GE-SX-M M850-D	850	LC	Multi-mode, 50/125 Multi-mode, 62.5/125	500 400 200 160	550 m (1804.46 ft) 500 m (1640.42 ft) 275 m (902.23 ft) 200 m (656.17 ft)
SFP-GE-LX-S M1310-A	1310	LC	Single-mode, 9/125 Multi-mode, 50/125 Multi-mode, 62.5/125	N/A 500 or 400 500	10 km (6.21 miles) 550 m (1804.46 ft) 550 m (1804.46 ft)
SFP-GE-LX-S M1310-D	1310	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
SFP-GE-LH40-SM1310 SFP-GE-LH40-SM1310-D	1310	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)
SFP-GE-LH40-SM1550	1550	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)
SFP-GE-LH80-SM1550 SFP-GE-LH80	1550	LC	Single-mode, 9/125	N/A	80 km (49.71 miles)

GE SFP transceiver module	Central wavelength (nm)	Connector	Cable/Fiber type and diameter (μm)	Modal bandwidth (MHz × km)	Max transmission distance
-SM1550-D					
SFP-GE-LH100-SM1550	1550	LC	Single-mode, 9/125	N/A	100 km (62.14 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 from other vendors on the switch. If a USB device fails to operate on the switch, replace it with one from another vendor.

## QSFP28 port

The switch provides 64 QSFP28 ports. A QSFP28 port with a split-capable 100-GE transceiver module or cable installed can be split into four 25-GE breakout interfaces to improve port density. A QSFP28 port with a split-capable 40-GE transceiver module or cable installed can be split into four 10-GE breakout interfaces to improve port density.

On the S9820-64H switch, only odd-numbered interfaces can be split. When an odd-numbered interface is split, the interface with the number as the odd number + 1 is deleted.

You can install the following transceiver modules and cables in the QSFP28 ports:

- QSFP28 transceiver modules in [Table4-5](#).
- QSFP28 copper cables in [Table4-6](#).
- QSFP28 fiber cables in [Table4-7](#).
- QSFP28 to SFP28 copper cables in [Table4-8](#).
- QSFP+ transceiver modules in [Table4-9](#).
- QSFP+ copper cables in [Table4-10](#).
- QSFP+ fiber cables in [Table4-11](#).
- QSFP+ to SFP+ copper cables in [Table4-12](#).

**Table4-5 QSFP28 transceiver modules available for the QSFP28 ports**

QSFP28 transceiver module	Central wavelength (nm)	Connector	Fiber type and diameter (μm)	Modal bandwidth (MHz*km)	Maximum transmission distance
QSFP-100G-SR4-MM850	850	MPO (PC polished, 12-fiber)	Multi-mode, 50/125	2000	70 m (229.66 ft)
				4700	100 m (328.08 ft)
QSFP-100G-	1295 to 1325	MPO (APC)	Single-mode,	N/A	0.5 km (0.31 miles)

QSFP28 transceiver module	Central wavelength (nm)	Connector	Fiber type and diameter (μm)	Modal bandwidth (MHz*km)	Maximum transmission distance
PSM4-SM1310		polished, 12-fiber)	9/125		
QSFP-100G-CWDM4-SM1300-A	Four lanes: • 1271 • 1291 • 1311 • 1331	LC	Single-mode, 9/125	N/A	2 km (1.24 miles)
QSFP-100G-ER4L-WDM1300	Four lanes: • 1295.56 • 1300.05 • 1304.58 • 1309.14	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)
QSFP-100G-LR4-WDM1300 QSFP-100G-LR4-WDM1300-A	Four lanes: • 1295.56 • 1300.05 • 1304.58 • 1309.14	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
QSFP-100G-LR4L-WDM1300	Four lanes: • 1271 • 1291 • 1311 • 1331	LC	Single-mode, 9/125	N/A	2 km (1.24 miles)
QSFP-100G-SWDM4-MM850	Four lanes: • 850 • 880 • 910 • 940	LC	Multi-mode, 50/125	2000	75 m (246.06 ft)
				4700	100 m (328.08 ft)
QSFP-100G-BIDI-MM850 (end of sale)	Two lanes: • 855 • 908	LC	Multi-mode, 50/125	2000	70 m (229.66 ft)
				4700	100 m (328.08 ft)



#### IMPORTANT:

- The QSFP-100G-SWDM4-MM850 transceiver module is supported only in E6553 and later.
- The QSFP-100G-BIDI-MM85 and QSFP-100G-ER4L-WDM1300 transceiver modules are supported only in R6607 and later.

**Table4-6 QSFP28 copper cables available for the QSFP28 ports**

QSFP28 copper cable	Cable length
QSFP-100G-D-CAB-1M	1 m (3.28 ft)
QSFP-100G-D-CAB-3M	3 m (9.84 ft)
QSFP-100G-D-CAB-5M	5 m (16.40 ft)



**Table4-7 QSFP28 fiber cables available for the QSFP28 ports**

QSFP28 fiber cable	Cable length
QSFP-100G-D-AOC-7M	7 m (22.97 ft)
QSFP-100G-D-AOC-10M	10 m (32.81 ft)
QSFP-100G-D-AOC-20M	20 m (65.62 ft)

**Table4-8 QSFP28 to SFP28 copper cables available for the QSFP28 ports**

QSFP28 to SFP28 copper cable	Cable length
QSFP-100G-4SFP-25G-CAB-1M	1 m (3.28 ft)
QSFP-100G-4SFP-25G-CAB-3M	3 m (9.84 ft)
QSFP-100G-4SFP-25G-CAB-5M	5 m (16.40 ft)

**Table4-9 QSFP+ transceiver modules available for the QSFP28 ports**

QSFP+ transceiver module	Central wavelength (nm)	Connector	Fiber type and diameter (μm)	Modal bandwidth (MHz × km)	Max transmission distance
QSFP-40G-SR 4-MM850	850	MPO (PC-polished, 12-core)	Multi-mode, 50/125	2000	100 m (328.08 ft)
				4700	150 m (492.13 ft)
QSFP-40G-CS R4-MM850	850	MPO (PC-polished, 12-core)	Multi-mode, 50/125	2000	300 m (984.25 ft)
				4700	400 m (1312.34 ft)
QSFP-40G-LR 4-PSM1310	1310	MPO (APC-polished, 12-core)	Single-mode, 9/125	N/A	10 km (6.21 miles)
QSFP-40G-BI DI-SR-MM850	850	LC	Multi-mode, 50/125	2000	100 m (328.08 ft)
				4700	150 m (492.13 ft)
QSFP-40G-BI DI-WDM850	Four lanes: • 850 • 880 • 910 • 940	LC	Multi-mode, 50/125	2000	240 m (787.40 ft)
				4700	350 m (1148.29 ft)
QSFP-40G-ER 4-WDM1300	Four lanes: • 1271 • 1291 • 1311 • 1331	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)
QSFP-40G-LR 4-WDM1300	Four lanes: • 1271 • 1291 • 1311 • 1331	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
QSFP-40G-LR 4L-WDM1300	Four lanes: • 1271	LC	Single-mode, 9/125	N/A	2 km (1.24 miles)

QSFP+ transceiver module	Central wavelength (nm)	Connector	Fiber type and diameter (μm)	Modal bandwidth (MHz × km)	Max transmission distance
	<ul style="list-style-type: none"> <li>1291</li> <li>1311</li> <li>1331</li> </ul>				

**Table4-10 QSFP+ copper cables available for the QSFP28 ports**

QSFP+ copper cable	Max transmission distance
LSWM1QSTK0	1 m (3.28 ft)
LSWM1QSTK1	3 m (9.84 ft)
LSWM1QSTK2	5 m (16.40 ft)

**Table4-11 QSFP+ fiber cables available for the QSFP28 ports**

QSFP+ fiber cable	Cable length
QSFP-40G-D-AOC-3M	3 m (9.84 ft)
QSFP-40G-D-AOC-7M	7 m (22.97 ft)
QSFP-40G-D-AOC-10M	10 m (32.81 ft)
QSFP-40G-D-AOC-20M	20 m (65.62 ft)

**Table4-12 QSFP+ to SFP+ copper cables available for the QSFP28 ports**

QSFP+ to SFP+ copper cable	Max transmission distance
LSWM1QSTK3	1 m (3.28 ft)
LSWM1QSTK4	3 m (9.84 ft)
LSWM1QSTK5	5 m (16.40 ft)

**NOTE:**

- You can use a QSFP-40G-SR4-MM850 or QSFP-40G-CSR4-MM850 transceiver module to connect a QSFP+ port to four SFP+ ports. The QSFP+ transceiver module and SFP+ transceiver modules to be connected must be the same in specifications, including central wavelength and fiber type.
- MPO connectors include physical contact (PC) connectors with a flat-polished face and angle-polished contact (APC) connectors with an angle-polished face (8°).
- The QSFP-40G-LR4L-WDM1300 and QSFP-40G-ER4-WDM1300 transceiver modules are supported only in E6553 and later.
- The QSFP-40G-BIDI-WDM850 transceiver module is supported only in R6607 and later.

# LEDs

## System status LED

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

**Table4-13 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 you to locate the switch. To locate the switch in the rack, execute the <b>locator blink blink-time</b> command. The LED then flashes blue at 3 Hz.
	Off	The switch is powered off or has failed to start up.

## QSFP28 port LED

**Table4-14 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 10 Gbps, 25 Gbps, or 40 Gbps.
Flashing yellow (3 Hz)	The port is sending or receiving data at 10 Gbps, 25 Gbps, or 40 Gbps.
Off	No transceiver module or cable has been 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.

**Table4-15 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.

## Fan tray alarm LEDs

The LSWM1BFANSC, LSWM1BFANSC-SN, LSWM1BFANSCB, and LSWM1BFANSCB-SN fan trays each provide an alarm LED.

**Table4-16 Description for the alarm LED**

Status	Description
On	The fan tray is faulty.
Off	The fan tray is operating correctly or no power is present.

## 5 Cooling system

### △ CAUTION:

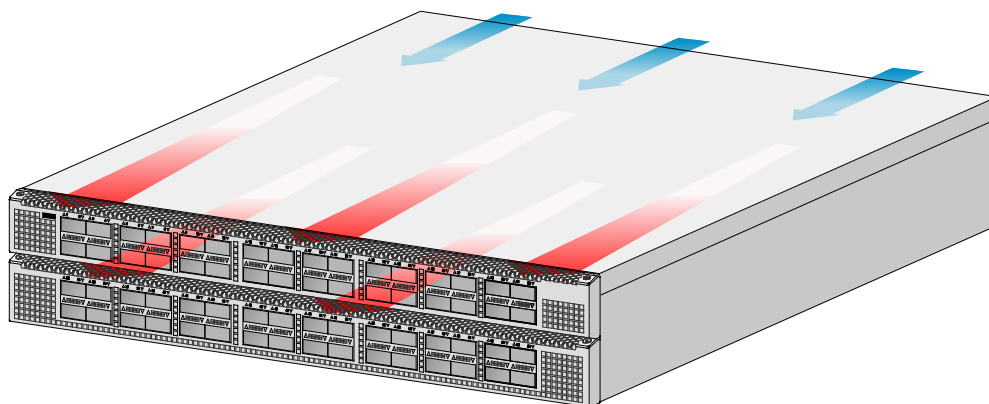
The chassis and power supplies use separate air aisles. Make sure the two aisles are not blocked when the switch is operating.

To dissipate heat timely and ensure system stability, the switch uses the front-rear air aisle cooling system. Consider the site ventilation design when you plan the installation site for the switch.

**Table5-1 Fan tray options for the switch**

Available fan trays	Airflow direction
LSWM1BFANSC/LSWM1BFANSC-SN	From the power supply side to the port side
LSWM1BFANSCB/LSWM1BFANSCB-SN	From the port side to the power supply side

**Figure5-1 Airflow from the power supply side to the port side (with LSWM1BFANSC/LSWM1BFANSC-SN fan trays)**



**Figure5-2 Airflow from the port side to the power supply side (with LSWM1BFANSCB/LSWM1BFANSCB-SN fan trays)**

