H3C S6812 & S6813 Switch Series

Hardware Information and Specifications

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Preface

H3C S6812 & S6813 Switch Series Hardware Information and Specifications describes product models, technical specifications, ports,and LEDs of the S6812 & S6813 switches.

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 switches.

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** > **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

This document provides an installation guide for the following switch series:

- S6812 switch series
- S6813 switch series

Table1-1 describes the switch models that each switch series includes.

Table1-1 Switch series and models

Switch series	Model	Product code (PID)
S6812 switch series	S6812-24X6C	LS-6812-24X6C
	S6812-48X6C	LS-6812-48X6C
S6813 switch series	S6813-24X6C	LS-6813-24X6C
	S6813-48X6C	LS-6813-48X6C

Technical specifications

Table1-2 Technical specifications

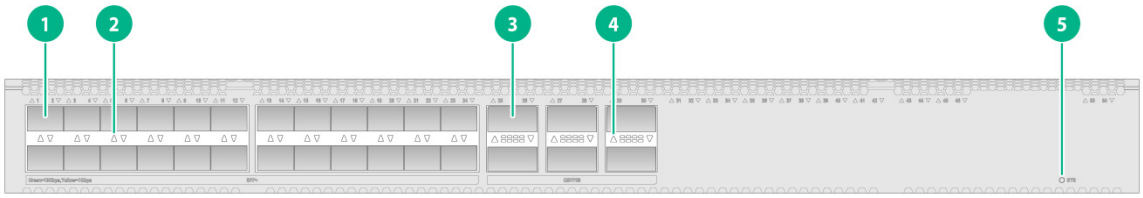
Item	S6812-24X6C	S6812-48X6C	S6813-24X6C	S6813-48X6C
Dimensions (H × W × D)	44 × 440 × 360 mm (1.72 × 17.32 × 14.17 in)			
Weight	≤ 5.5 kg (12.13 lb)	≤ 6 kg (13.22 lb)	≤ 6 kg (13.22 lb)	≤ 6.5 kg (14.33 lb)
Console port	1 × serial console port			
USB port	1	1	1	1
Management Ethernet port	1	1	1	1
SFP+ port	24	48	24	48
QSFP28 port	6	6	6	6
Power module slot	2, on the rear panel			
Fan tray slot	3, on the rear panel			
Input voltage	AC input for the PSR180-12A-F or PSR180-12A-B power module: • Rated voltage: 100 VAC to 240 VAC @ 50 or 60 Hz • Max voltage: 90 VAC to 264 VAC @ 47 to 63 Hz			
Minimum power consumption	• Single AC input: 29 W	• Single AC input: 29 W	• Single AC input: 38 W	• Single AC input: 36 W

Item	S6812-24X6C	S6812-48X6C	S6813-24X6C	S6813-48X6C
	• Dual AC inputs: 35 W	• Dual AC inputs: 36 W	• Dual AC inputs: 46 W	• Dual AC inputs: 44 W
Maximum power consumption	• Single AC input: 131 W • Dual AC inputs: 134 W	• Single AC input: 162 W • Dual AC inputs: 163 W	• Single AC input: 143 W • Dual AC inputs: 145 W	• Single AC input: 176 W • Dual AC inputs: 177 W
Melting current of power supply fuse	6.3 A @ 250 V	6.3 A @ 250 V	6.3 A @ 250 V	6.3 A @ 250 V
Operating temperature	–5°C to +45°C (23°F to 113°F)			
Operating humidity	5% RH to 95% RH, noncondensing			
Safety regulation compliance	UL 62368-1/EN 62368-1/IEC 62368-1/UL 60950-1/EN 60950-1/IEC 60950-1/GB4943.1			

2 Chassis views

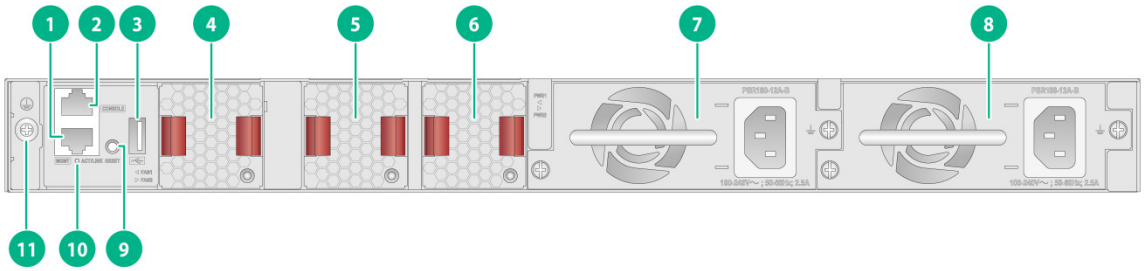
S6812-24X6C

Figure2-1 Front panel



(1) SFP+ port	(2) SFP+ port LED
(3) QSFP28 port	(4) QSFP28 port LED
(5) System status LED (SYS)	

Figure2-2 Rear panel



(1) Management Ethernet port	(2) Console port (CONSOLE)
(3) USB port	(4) Fan tray 1
(5) Fan tray 2	(6) Fan tray 3
(7) Power module 1	(8) Power module 2
(9) RESET button	(10) Management Ethernet port LED (ACT/LINK)
(11) Grounding screw	

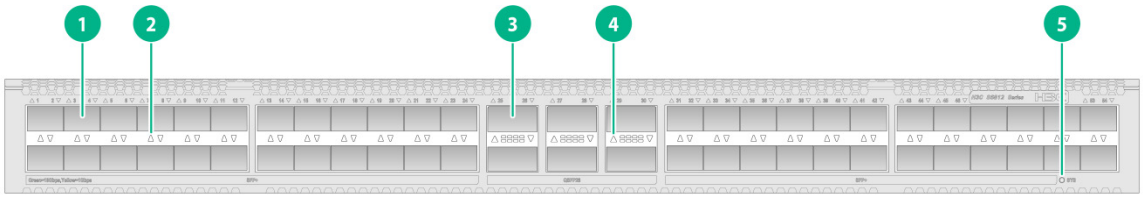
The S6812-24X6C switch comes with power module slot 1 empty and power module slot 2 installed with a filler panel. You can install one or two power modules for the switch as required. In Figure2-2, two PSR180-12A-B AC power modules are installed in the power module slots.

The S6812-24X6C switch comes with the three fan tray slots empty. You must install three fan trays of the same model for the switch. In Figure2-2, three LSPM1FANSB-SN fan trays are installed in the fan tray slots.

The S6812-24X6C switch provides a reset button on the rear panel for you to reset the switch.

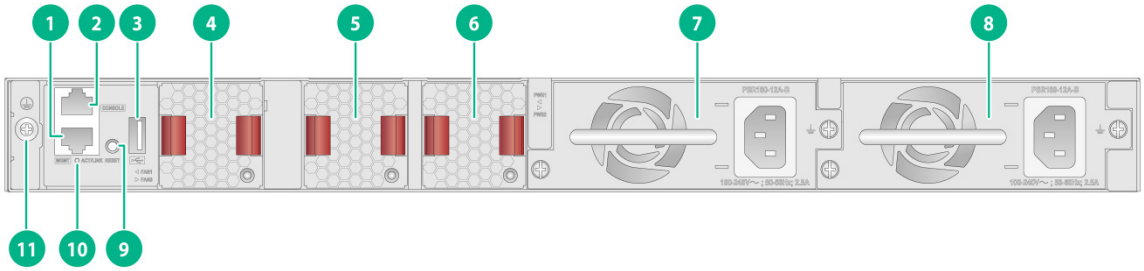
S6812-48X6C

Figure2-3 Front panel



(1) SFP+ port	(2) SFP+ port LED
(3) QSFP28 port	(4) QSFP28 port LED
(5) System status LED (SYS)	

Figure2-4 Rear panel



(1) Management Ethernet port	(2) Console port (CONSOLE)
(3) USB port	(4) Fan tray 1
(5) Fan tray 2	(6) Fan tray 3
(7) Power module 1	(8) Power module 2
(9) RESET button	(10) Management Ethernet port LED (ACT/LINK)
(11) Grounding screw	

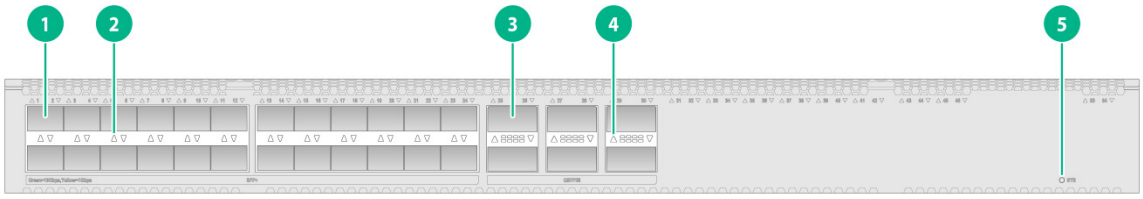
The S6812-48X6C switch comes with power module slot 1 empty and power module slot 2 installed with a filler panel. You can install one or two power modules for the switch as required. In Figure2-4, two PSR180-12A-B AC power modules are installed in the power module slots.

The S6812-48X6C switch comes with the three fan tray slots empty. You must install three fan trays of the same model for the switch. In Figure2-4, three LSPM1FANSB-SN fan trays are installed in the fan tray slots.

The S6812-48X6C switch provides a reset button on the rear panel for you to reset the switch.

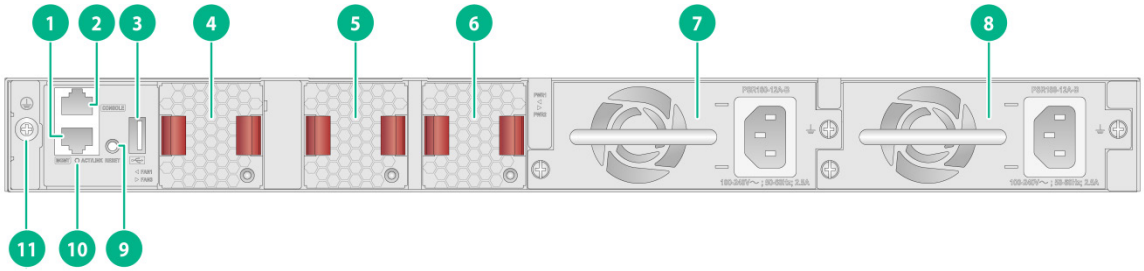
S6813-24X6C

Figure2-5 Front panel



(1) SFP+ port	(2) SFP+ port LED
(3) QSFP28 port	(4) QSFP28 port LED
(5) System status LED (SYS)	

Figure2-6 Rear panel



(1) Management Ethernet port	(2) Console port (CONSOLE)
(3) USB port	(4) Fan tray 1
(5) Fan tray 2	(6) Fan tray 3
(7) Power module 1	(8) Power module 2
(9) RESET button	(10) Management Ethernet port LED (ACT/LINK)
(11) Grounding screw	

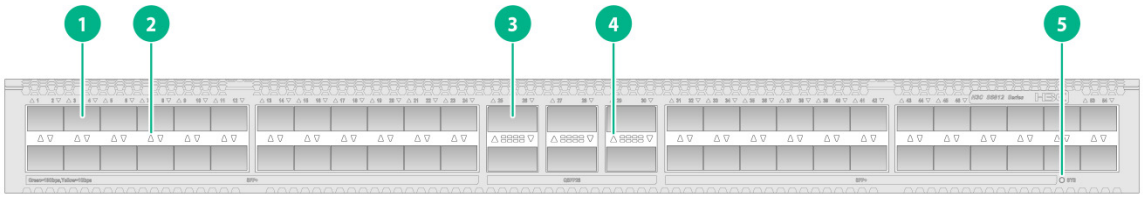
The S6813-24X6C switch comes with power module slot 1 empty and power module slot 2 installed with a filler panel. You can install one or two power modules for the switch as required. In Figure2-6, two PSR180-12A-B AC power modules are installed in the power module slots.

The S6813-24X6C switch comes with the three fan tray slots empty. You must install three fan trays of the same model for the switch. In Figure2-6, three LSPM1FANSB-SN fan trays are installed in the fan tray slots.

The S6813-24X6C switch provides a reset button on the rear panel for you to reset the switch.

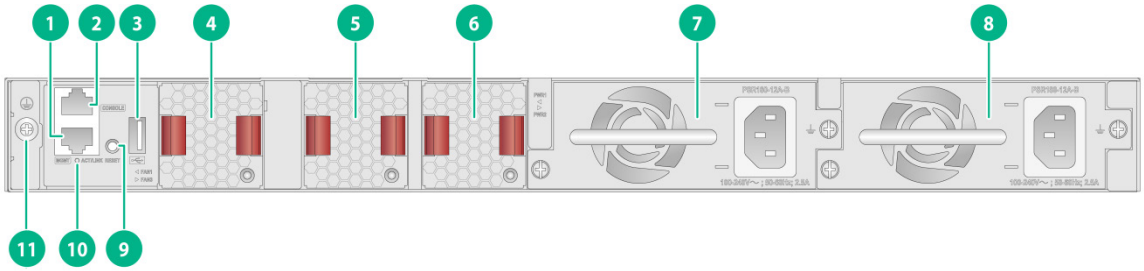
S6813-48X6C

Figure2-7 Front panel



(1) SFP+ port	(2) SFP+ port LED
(3) QSFP28 port	(4) QSFP28 port LED
(5) System status LED (SYS)	

Figure2-8 Rear panel



(1) Management Ethernet port	(2) Console port (CONSOLE)
(3) USB port	(4) Fan tray 1
(5) Fan tray 2	(6) Fan tray 3
(7) Power module 1	(8) Power module 2
(9) RESET button	(10) Management Ethernet port LED (ACT/LINK)
(11) Grounding screw	

The S6813-48X6C switch comes with power module slot 1 empty and power module slot 2 installed with a filler panel. You can install one or two power modules for the switch as required. In Figure2-8, two PSR180-12A-B AC power modules are installed in the power module slots.

The S6813-48X6C switch comes with the three fan tray slots empty. You must install three fan trays of the same model for the switch. In Figure2-8, three LSPM1FANSB-SN fan trays are installed in the fan tray slots.

The S6813-48X6C switch provides a reset button on the rear panel for you to reset the switch.

3 FRUs and compatibility matrixes

The S6812 & S6813 switch series uses modular design and supports FRUs.

Table3-1 FRUs and compatibility matrixes

FRUs	S6812-24X6C	S6812-48X6C	S6813-24X6C	S6813-48X6C
Removable power modules				
PSR180-12A-F	Supported	Supported	Supported	Supported
PSR180-12A-B	Supported	Supported	Supported	Supported
Removable fan trays				
LSPM1FANSA-SN	Supported	Supported	Supported	Supported
LSPM1FANSB-SN	Supported	Supported	Supported	Supported

The power modules and fan trays support asset management. You can use the **`display device manuinfo`** command to view the name, sequence number, and vendor of the power modules and fan trays you have installed on the device.

Removable power modules

The S6812 & S6813 switch series provides power module slots and uses removable power modules. Select power modules for the switches as required.

Table3-2 Removable power modules

Power module	Specifications	Reference
PSR180-12A-F	• Rated input voltage range: 100 VAC to 240 VAC @ 50 Hz or 60 Hz • Max input voltage range: 90 VAC to 264 VAC @ 47 Hz to 63 Hz • Max output power: 180 W • Melting current of power supply fuse: 6.3 A/250 V	*H3C PSR180-12A & PSR180-12D Power Supply Series User Manual*
PSR180-12A-B	• Rated input voltage range: 100 VAC to 240 VAC @ 50 Hz or 60 Hz • Max input voltage range: 90 VAC to 264 VAC @ 47 Hz to 63 Hz • Max output power: 180 W • Melting current of power supply fuse: 6.3 A/250 V	

Removable fan trays

The S6812 & S6813 switch series supports the LSPM1FANSA-SN and LSPM1FANSB-SN fan trays.

Table3-3 Removable fan trays

Item	Specifications
LSPM1FANSA-SN fan tray	
Dimensions (H × W × D)	40 × 40.6 × 105 mm (1.57 × 1.60 × 4.13 in)
Fan speed	20000 R.P.M
Max airflow	20 CFM
Airflow direction	From the power module side to the port side
Input voltage	12 V
Maximum power consumption	9.8 W
Reference	*H3C LSPM1FANSA-SN & LSPM1FANSB-SN Fan Trays User Guide*
LSPM1FANSB-SN fan tray	
Dimensions (H × W × D)	40 × 40.6 × 105 mm (1.57 × 1.60 × 4.13 in)
Fan speed	20000 R.P.M
Max airflow	20 CFM
Airflow direction	From the port side to the power module side
Input voltage	12 V
Maximum power consumption	9.8 W
Reference	*H3C LSPM1FANSA-SN & LSPM1FANSB-SN Fan Trays User Guide*

4 Ports and LEDs

Ports

Console port

Table4-1 Console port specifications

Item	Specification
Compliant standard	EIA/TIA-232
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 PC running terminal emulation program.

Management Ethernet port

Table4-2 Management Ethernet port specifications

Item	Specification
Connector type	RJ-45
Connector quantity	1
Port transmission rate	10/100/1000 Mbps, half/full duplex, MDI/MDI-X autosensing
Transmission medium and max transmission distance	100 m (328.08 ft) over category-5 or higher twisted pair cable
Compliant standard	IEEE 802.3i IEEE 802.3u IEEE 802.3ab
Functions and services	Switch software and Boot ROM upgrade, network management

USB port

The switch has one OHC-compliant USB2.0 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.

NOTE:

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

SFP+ port

IMPORTANT:

If you use transceiver modules with a maximum transmission distance of 40 km (24.86 miles) or longer, make sure the operation temperature is not higher than 40°C (104°F), and the transceiver modules are not installed in adjacent slots. For example, if you install such a transceiver module in slot 3, you cannot install another transceiver module of the same type in slot 1, 4, or 5.

Table4-3 GE SFP transceiver modules and cables available for the SFP+ ports

GE SFP transceiver module and cable	Central wavelength (nm)	Connector	Cable/Fiber type and diameter (μm)	Modal bandwidth (MHz × km)	Max transmission distance
SFP copper transceiver module					
SFP-GE-T	N/A	RJ-45	Twisted pair cable	N/A	100 m (328.08 ft)
SFP-GE-T-D	N/A	RJ-45	Twisted pair cable	N/A	100 m (328.08 ft)
SFP fiber transceiver module					
SFP-GE-LH100-SM1550	1550	LC	Single-mode, 9/125	N/A	100 km (62.14 miles)
SFP-GE-SX-MM850-A	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	220 m (721.78 ft)
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	220 m (721.78 ft)
SFP-GE-SX-MM850-S	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	220 m (721.78 ft)
SFP-GE-LX-SM1310-A	1310	LC	Single-mode,	N/A	10 km

GE SFP transceiver module and cable	Central wavelength (nm)	Connector	Cable/Fiber type and diameter (μm)	Modal bandwidth (MHz × km)	Max transmission distance
			9/125		(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)
SFP-GE-LX-SM1310-S	1310	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
SFP-GE-LH20-SM1310-I	1310	LC	Single-mode, 9/125	N/A	20 km (12.43 miles)
SFP-GE-LH40-SM1310	1310	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)
SFP-GE-LH40-SM1310-D	1310	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)
SFP-GE-LH40-SM1310-I	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	1550	LC	Single-mode, 9/125	N/A	80 km (49.71 miles)
SFP-GE-LH80-SM1550-D	1550	LC	Single-mode, 9/125	N/A	80 km (49.71 miles)
SFP-GE-LH80-SM1550-D	1550	LC	Single-mode, 9/125	N/A	80 km (49.71 miles)
SFP-GE-LX-SM1310-BIDI	• TX: 1310 • RX: 1490	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
SFP-GE-LX-SM1490-BIDI	• TX: 1490 • RX: 1310	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
SFP-GE-LH40-SM1310-BIDI	• TX: 1310 • RX: 1550	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)

GE SFP transceiver module and cable	Central wavelength (nm)	Connector	Cable/Fiber type and diameter (μm)	Modal bandwidth (MHz × km)	Max transmission distance
SFP-GE-LH40-SM1550-BIDI	• TX: 1550 • RX: 1310	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)
SFP-GE-LH70-SM1490-BIDI	• TX: 1490 • RX: 1550	LC	Single-mode, 9/125	N/A	70 km (43.50 miles)
SFP-GE-LH70-SM1550-BIDI	• TX: 1550 • RX: 1490	LC	Single-mode, 9/125	N/A	70 km (43.50 miles)
SFP copper cable					
SFP-STACK-Kit	N/A	N/A	SFP copper cable	N/A	1.5 m (4.92 ft)

NOTE:

You must use the following transceiver modules in pairs:

- SFP-GE-LX-SM1310-BIDI and SFP-GE-LX-SM1490-BIDI
- SFP-GE-LH40-SM1310-BIDI and SFP-GE-LH40-SM1550-BIDI
- SFP-GE-LH70-SM1490-BIDI and SFP-GE-LH70-SM1550-BIDI

Table4-4 10-GE SFP+ transceiver modules available for the SFP+ ports

10-GE SFP+ module	Central wavelength (nm)	Connector	Fiber diameter (μm)	Multimode fiber modal bandwidth (MHz × km)	Max transmission distance
SFP-XG-SX-MM850-A	850	LC	Multi-mode, 50/125	2000	300 m (984.25 ft)
				500	82 m (269.03 ft)
				400	66 m (216.54 ft)
			Multi-mode, 62.5/125	200	33 m (108.27 ft)
				160	26 m (85.30 ft)
SFP-XG-SX-MM850-S	850	LC	Multi-mode, 50/125	2000	300 m (984.25 ft)
				500	82 m (269.03 ft)
				400	66 m (216.54 ft)
			Multi-mode, 62.5/125	200	33 m (108.27 ft)
				160	26 m (85.30 ft)
SFP-XG-SX-MM850-D	850	LC	Multi-mode, 50/125	2000	300 m (984.25 ft)
				500	82 m (269.03 ft)
				400	66 m (216.54 ft)

10-GE SFP+ module	Central wavelength (nm)	Connector	Fiber diameter (μm)	Multimode fiber modal bandwidth (MHz × km)	Max transmission distance
			Multi-mode, 62.5/125	200	33 m (108.27 ft)
				160	26 m (85.30 ft)
SFP-XG-LX-SM1310	1310	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
SFP-XG-LX-SM1310-D	1310	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
SFP-XG-LH80-SM1550	1550	LC	Single-mode, 9/125	N/A	80 km (49.71 miles)
SFP-XG-LH80-SM1550-D	1550	LC	Single-mode, 9/125	N/A	80 km (49.71 miles)
SFP-XG-LX-SM1270-BIDI	• TX: 1270 • RX: 1330	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
SFP-XG-LX-SM1330-BIDI	• TX: 1330 • RX: 1270	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
SFP-XG-LH40-SM1270-BIDI	• TX: 1270 • RX: 1330	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)
SFP-XG-LH40-SM1330-BIDI	• TX: 1330 • RX: 1270	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)
SFP-XG-LH80-SM1490-BIDI	• TX: 1490 • RX: 1550	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)
SFP-XG-LH80-SM1550-BIDI	• TX: 1550 • RX: 1490	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)
SFP-XG-SX-MM850-E	850	LC	Multi-mode, 50/125	2000	300 m (984.25 ft)
				500	82 m (269.03 ft)
				400	66 m (216.54 ft)
			Multi-mode, 62.5/125	200	33 m (108.27 ft)
				160	26 m (85.30 ft)
SFP-XG-LX-SM1310-E	1310	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
SFP-XG-LX-SM1310-S	1310	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
SFP-XG-LH40-S	1550	LC	Single-mode,	N/A	40 km (24.86 miles)

10-GE SFP+ module	Central wavelength (nm)	Connector	Fiber diameter (μm)	Multimode fiber modal bandwidth (MHz × km)	Max transmission distance
M1550			9/125		
SFP-XG-LH40-S M1550-D	1550	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)

NOTE:

You must use the following transceiver modules in pairs:

- SFP-XG-LX-SM1270-BIDI and SFP-XG-LX-SM1330-BIDI
- SFP-XG-LH40-SM1270-BIDI and SFP-XG-LH40-SM1330-BIDI
- SFP-XG-LH80-SM1490-BIDI and SFP-XG-LH80-SM1550-BIDI

Table4-5 SFP+ copper cables available for the SFP+ ports

Cable description	Cable length
LSWM1STK	0.65 m (2.13 ft)
LSWM2STK	1.2 m (3.94 ft)
LSWM3STK	3 m (9.84 ft)
LSTM1STK	5 m (16.40 ft)

Table4-6 SFP+ AOC cables available for the SFP+ ports

Cable description	Cable length
SFP-XG-D-AOC-7M	7 m (22.97 ft)
SFP-XG-D-AOC-10M	10 m (32.81 ft)
SFP-XG-D-AOC-20M	20 m (65.62 ft)

NOTE:

- As a best practice, use only H3C SFP/SFP+ transceiver modules and cables for the SFP+ ports.
- The H3C SFP/SFP+ transceiver modules and cables available for the SFP+ ports are subject to change over time. For the most recent list of SFP/SFP+ transceiver modules and cables, contact your H3C Support or marketing staff.
- For the specifications of H3C SFP/SFP+ transceiver modules and cables, see *H3C Transceiver Modules User Guide*.

QSFP28 port

Table4-7 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-	Four lanes:	LC	Single-mode,	N/A	40 km (24.86

QSFP28 transceiver module	Central wavelength (nm)	Connector	Fiber type and diameter (μm)	Modal bandwidth (MHz*km)	Maximum transmission distance
ER4L-WDM1300	• 1295 • 1300 • 1304 • 1309		9/125		miles)
QSFP-100G-eSR4-MM850	850	MPO (PC polished, 12-fiber)	Multi-mode, 50/125	4700	300 m (984.25 ft)
QSFP-100G-PSM4-SM1310	1310	MPO (PC polished, 12-fiber)	Single-mode, 9/125	N/A	0.5 km (0.31 miles)
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-LR4-WDM1300	Four lanes: • 1295 • 1300 • 1304 • 1309	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
QSFP-100G-LR4-WDM1300-A	Four lanes: • 1295 • 1300 • 1304 • 1309	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)

Table4-8 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)

Table4-9 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)

Table4-10 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)

Table4-11 QSFP+ transceiver modules available for the QSFP+ ports

QSFP+ transceiver module	Central wavelength (nm)	Connector	Fiber type and diameter (μm)	Modal bandwidth (MHz × km)	Max transmission distance
QSFP-40G-SR4-MM850	850	MPO (PC polished, 12-fiber)	Multi-mode, 50/125	2000	100 m (328.08 ft)
				4700	150 m (492.12 ft)
QSFP-40G-CSR4-MM850	850	MPO (PC polished, 12-fiber)	Multi-mode, 50/125	2000	300 m (984.25 ft)
				4700	400 m (1312.33 ft)
QSFP-40G-BIDI-SR-MM850	850	LC	Multi-mode, 50/125	2000	100 m (328.08 ft)
				4700	150 m (492.12 ft)
QSFP-40G-LR4-PSM1310	1310	MPO (APC polished, 12-fiber)	Single-mode, 9/125	N/A	10 km (6.21 miles)
QSFP-40G-LR4-WDM1300	Four lanes: • 1271. • 1291. • 1311. • 1331.	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
QSFP-40G-LR4L-WDM1300	Four lanes: • 1271. • 1291. • 1311. • 1331.	LC	Single-mode, 9/125	N/A	2 km (1.24 miles)
QSFP-40G-BIDI-WDM850	Four lanes: • 850. • 880. • 910. • 940.	LC	Multi-mode, 50/125	2000	240 m (787.40 ft)
				4700	350 m (1148.29 ft)

Table4-12 QSFP+ copper cables available for the QSFP+ ports

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

Table4-13 QSFP+ fiber cables available for the QSFP+ ports

QSFP+ cable	Max transmission distance
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)

Table4-14 QSFP+ to SFP+ cables available for the QSFP+ ports

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

NOTE:

- As a best practice, use H3C QSFP+ transceiver modules, QSFP+ cables, or QSFP+ to SFP+ cables for the QSFP+ ports on the switch. The H3C QSFP+ transceiver modules, QSFP+ cables, and QSFP+ to SFP+ cables available for the QSFP+ ports are subject to change over time. For the most recent list of QSFP+ transceiver modules, QSFP+ cables, and QSFP+ to SFP+ cables available for the QSFP+ ports, contact H3C Support or marketing staff.
- 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.

For more information about H3C QSFP+ transceiver modules, QSFP+ cables, and QSFP+ to SFP+ cables, see *H3C Transceiver Modules User Guide*.

LEDs

System status LED

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

Table4-15 System status LED description

LED mark	Status	Description
SYS	Steady green	The switch is operating correctly.
	Flashing green (1 Hz)	The switch is performing power-on self test (POST).
	Steady red	The switch has failed the POST or is faulty.
	Off	The switch is powered off.

SFP+ port LED

Table4-16 SFP+ port LED description

SFP+ port LED status	Description
Steady green	A link is present on the port and the port is operating at 10 Gbps.
Flashing green	The port is sending or receiving data at 10 Gbps.
Steady yellow	A link is present on the port and the port is operating at 1 Gbps.
Flashing yellow	The port is sending or receiving data at 1 Gbps.
Off	No link is present on the port.

QSFP28 port LED

S6812 & S6813 switches series provides QSFP28 ports on the rear panel.

Table4-17 QSFP28 port LED description

QSFP28 port LED status	Description
Steady green	A link is present on the port and the port is operating at 100 Gbps.
Flashing green	The port is sending or receiving data at 100 Gbps.
Steady yellow	A link is present on the port and the port is operating at 40 Gbps.
Flashing yellow	The port is sending or receiving data at 40 Gbps.
Off	No link is present on the port.

Management Ethernet port LED

Table4-18 Management Ethernet port LED description

Management Ethernet port LED (ACT/LINK) status	Description
Steady green	A link is present on the port.
Flashing yellow	The port is sending or receiving data.
Off	No link is present on the port.

Fan tray alarm LEDs

The LSPM1FANSA-SN and LSPM1FANSB-SN fan trays each provide an alarm LED.

Table4-19 Description for the alarm LEDs on the fan trays

Status	Description
On	The fan tray is faulty.

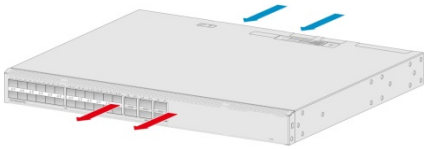
Status	Description
Off	The fan tray is operating correctly or no power is being input.

5 Cooling system

The switch uses a high-performance cooling system for fast heat dissipation and system stability. Consider the site ventilation design when you plan the installation site for the switch.

Some switch models use removable fan trays. You can choose fan tray models for these switches to provide airflow directions that match the heat dissipation requirements at the installation site. You must fully configure fan trays for these switches, and the fan trays on a switch must be the same model.

Table5-1 Cooling system

Device model	Fan tray type and model	Airflow direction
S6812-24X6C S6812-48X6C S6813-24X6C S6813-48X6C	Removable fan tray LSPM1FANSA-SN	From the power module side to the port side (S6812-24X6C switch as an example) 
	Removable fan tray LSPM1FANSB-SN	From the port side to the power module side (S6812-24X6C switch as an example)