

H3C S6520X-EI & S6520X-HI Switch Series

Installation Guide

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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 S6520X-EI & S6520X-HI Switch Series Installation Guide describes the appearance, installation, power-on, maintenance, and troubleshooting of the H3C S6520X-EI & S6520X-HI Switch Series.

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 S6520X-EI & S6520X-HI switch series.

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.
<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
Boldface	Window names, button names, field names, and menu items are in Boldface. For example, the New User window opens; click OK .

Convention	Description
>	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.

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1 Preparing for installation

This document is applicable to the following Ethernet switches:

- S6520X-30QC-EI
- S6520X-54QC-EI
- S6520X-30HC-EI
- S6520X-54HC-EI
- S6520X-30HF-EI
- S6520X-54HF-EI
- S6520X-30QC-HI
- S6520X-54QC-HI
- S6520X-30HC-HI
- S6520X-54HC-HI
- S6520X-30HF-HI
- S6520X-54HF-HI

Safety recommendations

To avoid any equipment damage or bodily injury caused by improper use, read the following safety recommendations before installation. Note that the recommendations do not cover every possible hazardous condition.

- Before cleaning the switch, remove all power cords from the switch. Do not clean the switch with wet cloth or liquid.
- Do not place the switch near water or in a damp environment. Prevent water or moisture from entering the switch chassis.
- Do not place the switch on an unstable case or desk. The switch might be severely damaged in case of a fall.
- Ensure good ventilation of the equipment room and keep the air inlet and outlet vents of the switch free of obstruction.
- Make sure the power input voltage is as required by the power supply.
- To avoid electrical shocks, do not open the chassis while the switch is operating or when the switch is just powered off.
- During switch installation, wear an ESD wrist strap. Make sure the strap makes good skin contact and is reliably grounded.

Examining the installation site

The switch must be used indoors. You can mount your switch in a rack or on a workbench. Make sure the following requirements are met:

- Adequate clearance is reserved at the air inlet and outlet vents for ventilation.
- The rack or workbench has a good ventilation system.
- Identify the hot aisle and cold aisle at the installation site, and make sure ambient air flows into the switch from the cold aisle and exhausts to the hot aisle.

- Identify the airflow designs of neighboring devices, and prevent hot air flowing out of the neighboring device from entering the device.
- The rack is sturdy enough to support the switch and its accessories.
- The rack or workbench is reliably grounded.

To ensure correct operation and long service life of your switch, install it in an environment that meets the requirements described in the following subsections.

Temperature/humidity

For correct operation and long service life of your switch, maintain the temperature and humidity in the equipment room at acceptable ranges.

- Lasting high relative humidity can cause poor insulation, electricity leakage, mechanical property change of materials, and metal corrosion.
- Lasting low relative humidity can cause washer contraction and ESD and cause issues including loose mounting screws and circuit failure.
- High temperature can accelerate the aging of insulation materials and significantly lower the reliability and lifespan of the switch.

For the temperature and humidity requirements of the switch, see technical specifications in *Hardware Information and Specifications*.

Cleanliness

Dust buildup on the chassis might cause electrostatic adsorption and dust corrosion, resulting in poor contact of metal connectors and contact points. This might shorten the device's lifetime and even cause device failure in the worst case. [Table1-1](#) describes the dust concentration limits in the equipment room.

Table1-1 Dust concentration limits in the equipment room

Substance	Particle diameter	Concentration limit
Dust particles	$\geq 0.5 \mu\text{m}$	$\leq 3.5 \times 10^6 \text{ particles/m}^3$
Dust particles	$\geq 5 \mu\text{m}$	$\leq 3 \times 10^4 \text{ particles/m}^3$
Dust (suspension)	$\leq 75 \mu\text{m}$	$\leq 0.2 \text{ mg/m}^3$
Dust (sedimentation)	$75 \mu\text{m to } 150 \mu\text{m}$	$\leq 1.5 \text{ mg}/(\text{m}^2\text{h})$

To maintain cleanliness in the equipment room, follow these guidelines:

- Keep the equipment room away from pollution sources. Do not smoke, eat, or drink in the equipment room.
- Use double-layer glass in windows and seal doors and windows with dust-proof rubber strips. Use screen doors and window screens for doors and windows open to the outside and make sure the external windows are air tight.
- Use dustproof materials for floors, walls, and ceilings and use wallpaper or matt paint that does not produce powders.
- Clean the equipment room regularly and clean the air filters of the rack each month.
- Wear ESD clothing and shoe covers before entering the equipment room, keep the ESD clothing and shoe covers clean, and change them frequently.

Corrosive gas limit

Corrosive gases can accelerate corrosion and aging of metal components. Make sure the corrosive gases in the equipment room do not exceed the concentration limits as shown in [Table1-2](#).

Table1-2 Corrosive gas concentration limits in the equipment room

Gas	Average concentration (mg/m ³)	Maximum concentration (mg/m ³)
SO ₂	0.3	1.0
H ₂ S	0.1	0.5
Cl ₂	0.1	0.3
HCl	0.1	0.5
HF	0.01	0.03
NH ₃	1.0	3.0
O ₃	0.05	0.1
NO _x	0.5	1.0

CAUTION:

As a best practice, control the corrosive gas concentrations in the equipment room at their average values. Make sure the corrosive gas concentrations do not exceed 30 minutes per day at their maximum values.

To control corrosive gases, use the following guidelines:

- As a best practice, do not build the equipment room in a place with a high concentration of corrosive gases.
- Make sure the equipment room is not connected to sewer, vertical shaft, or septic tank pipelines and keep it far away from these pipelines. The air inlet of the equipment room must be away from such pollution sources.
- Use environmentally friendly materials to decorate the equipment room. Avoid using organic materials that contains harmful gases, such as sulfur or chlorine-containing insulation cottons, rubber mats, sound-proof cottons, and avoid using plasterboards with high sulfur concentration.
- Place fuel (diesel or gasoline) engines separately. Do not place them in the same equipment room with the device. Make sure the exhausted air of the engines will not flow into the equipment room or towards the air inlet of the air conditioners.
- Place batteries separately. Do not place them in the same room with the device.
- Employ a professional company to monitor and control corrosive gases in the equipment room regularly.

EMI

All electromagnetic interference (EMI) sources, from outside or inside of the switch and application system, adversely affect the switch in the following ways:

- A conduction pattern of capacitance coupling.
- Inductance coupling.
- Electromagnetic wave radiation.
- Common impedance (including the grounding system) coupling.

To prevent EMI, use the following guidelines:

- If AC power is used, use a single-phase three-wire power receptacle with protection earth (PE) to filter interference from the power grid.
- Keep the switch far away from radio transmitting stations, radar stations, and high-frequency devices.
- Use electromagnetic shielding, for example, shielded interface cables, when necessary.
- To prevent signal ports from getting damaged by overvoltage or overcurrent caused by lightning strikes, route interface cables only indoors.

Laser safety

⚠ WARNING!

The switch is Class 1 laser device. Disconnected optical fibers or transceiver modules might emit invisible laser light. Do not stare into beams or view directly with optical instruments when the switch is operating.

Installation tools

No installation tools are provided with the switch. Prepare the following tools yourself as required:

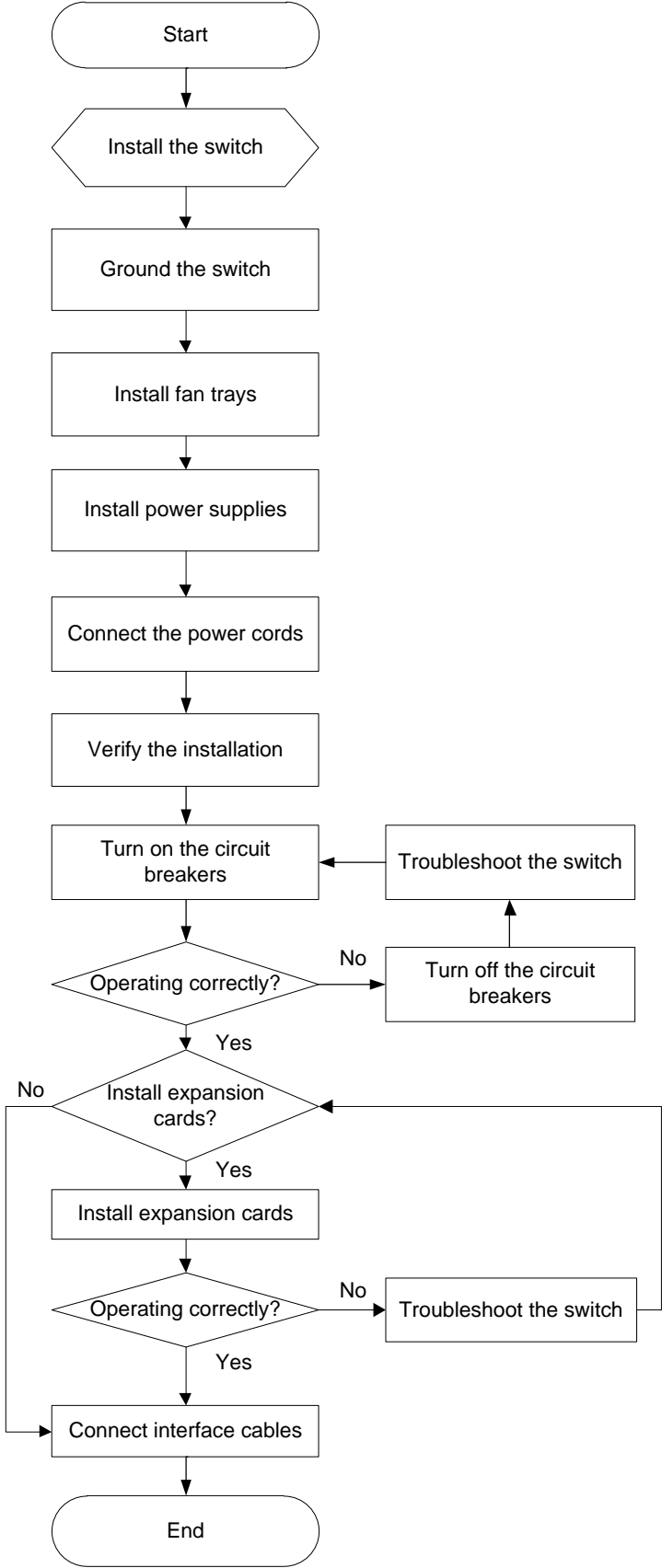
- ESD wrist strap
- Flat-blade screwdriver
- Phillips screwdriver
- Needle-nose pliers
- Diagonal pliers
- Crimping tool
- Marker
- Heat gun

2 Installing the switch

△ CAUTION:

Keep the tamper-proof seal on a mounting screw on the chassis cover intact, and if you want to open the chassis, contact H3C for permission. Otherwise, H3C shall not be liable for any consequence.

Figure2-1 Hardware installation flow



Installing the switch in a 19-inch rack

Installation methods

Table2-2 Installation methods

Installation method	Requirements and guidelines	Applicable switch models	Installation procedure
Using front mounting brackets	<ul style="list-style-type: none"> • Select an installation position for the front mounting brackets as required: near the power supply side or port side. • Make sure the distance between the front rack posts and front door is equal to or greater than 130 mm (5.12 in). • Make sure the distance between the front rack posts and rear door is equal to or greater than 410 mm (16.14 in). 	<p>S6520X-30HF-EI S6520X-54HF-EI S6520X-30HF-HI S6520X-54HF-HI</p>	<p>See "Rack-mounting the switch by using front mounting brackets."</p>
Using front and rear mounting brackets	<ul style="list-style-type: none"> • Select an installation position for the front mounting brackets as required: near the power supply side or port side. • Install the rear mounting brackets based on the rack depth (distance between the front and rear rack posts). <ul style="list-style-type: none"> ○ If the rack depth is in the range of 327 to 494 mm (12.87 to 19.45 in), orient the rear mounting brackets with the wide flange inside the rack. ○ If the rack depth is in the range of 172 to 339 mm (6.77 to 13.35 in) and the distance from the rear rack posts to the inner surface of the cabinet door is greater than 153 mm (6.02 in), orient the rear mounting brackets with the wide flange outside the rack. 	<p>All S6520X-EI and S6520X-HI models</p>	<p>See "Rack-mounting the switch by using front and rear mounting brackets."</p>
Using front mounting brackets and an extension rail kit	<ul style="list-style-type: none"> • Select an installation position for the front mounting brackets as required: near the power supply side or port side. • Make sure the distance between the front and rear rack posts is in the range of 650 to 850 mm (25.59 to 33.46 in). 	<p>All S6520X-EI and S6520X-HI models</p>	<p>See "Rack-mounting the switch by using front mounting brackets and extension brackets and rails."</p>



IMPORTANT:

For the rack doors to close easily after switch installation, make sure the distance requirements described in [Table2-2](#) are met.

Installation procedure at a glance

Figure2-2 Procedure for installing the switch in a 19-inch rack by using front mounting brackets

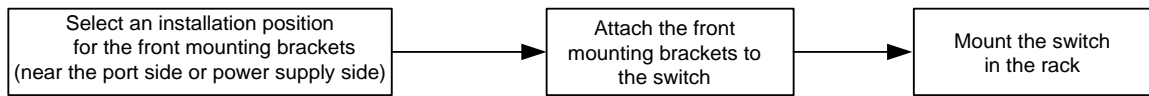


Figure2-3 Procedure for installing the switch in a 19-inch rack by using front and rear mounting brackets

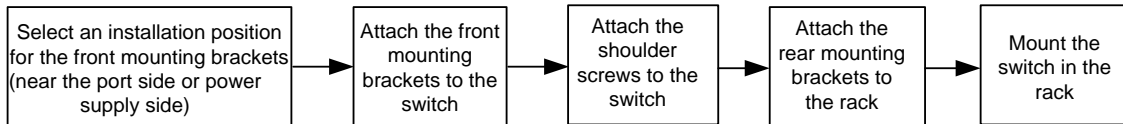
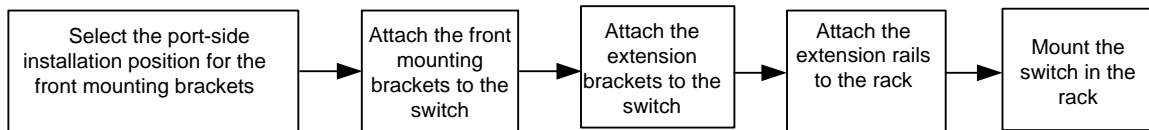


Figure2-4 Procedure for installing the switch in a 19-inch rack by using the front mounting brackets and an extension rail kit



NOTE:

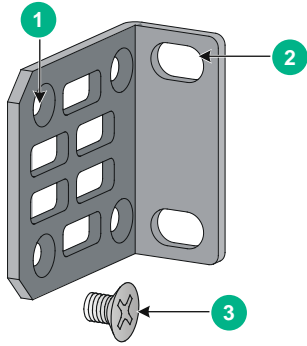
If a rack shelf is available, you can put the switch on the rack shelf, slide the switch to an appropriate location, and attach the switch to the rack by using the mounting brackets.

Installation accessories

Table2-3 Installation accessories

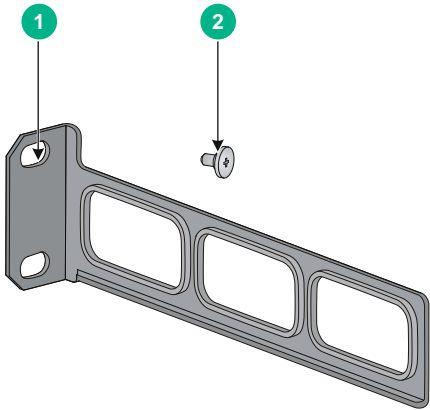
Switch model	Front mounting brackets (as shown in Figure2-5)	Rear mounting brackets and shoulder screws (as shown in Figure2-6)	1U extension rail kit (as shown in Figure2-7)
S6520X-30QC-EI S6520X-54QC-EI S6520X-30QC-HI S6520X-54QC-HI S6520X-30HC-EI S6520X-54HC-EI S6520X-30HC-HI S6520X-54HC-HI	Provided	Provided	Optional
S6520X-30HF-EI S6520X-54HF-EI S6520X-30HF-HI S6520X-54HF-HI	Provided	Optional	Optional

Figure2-5 Front mounting bracket



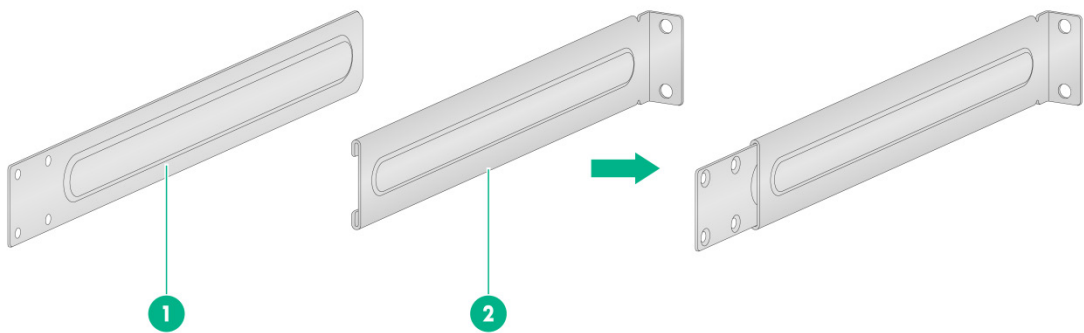
-
- (1) Screw hole for attaching the bracket to the switch (2) Screw hole for attaching the bracket to the rack
(3) M4 screw
-

Figure2-6 Rear mounting bracket and shoulder screw



-
- (1) Screw hole for attaching the bracket to the rack (2) Shoulder screw
-

Figure2-7 1U extension rail kit



-
- (1) Extension bracket (2) Extension rail
-

Rack-mounting the switch by using front mounting brackets

Attaching the front mounting brackets to the switch

The switch has one mounting position near the network ports and the other mounting position near the power supplies for the front mounting brackets. Select one position as needed.

To attach the front mounting brackets to the chassis:

1. Place the wide flange of the mounting bracket against the chassis side panel. Align the mounting bracket installation holes with the screw holes in the chassis.
 - o To install the mounting brackets at the port-side mounting position, see [Figure2-8](#).
 - o To install the mounting brackets at the power supply-side mounting position, see [Figure2-9](#).
2. Fasten the M4 screws to secure the mounting bracket to the switch.
3. Attach the front mounting bracket to the other side of the chassis in the same way.

Figure2-8 Attaching the front mounting brackets to the port-side mounting position (S6520X-30HF-EI switch as an example)

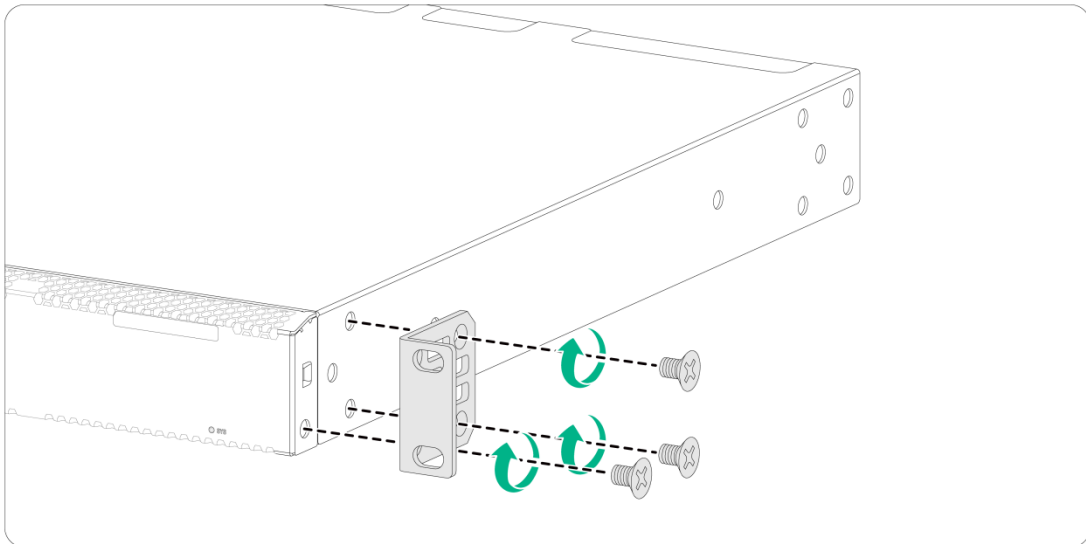
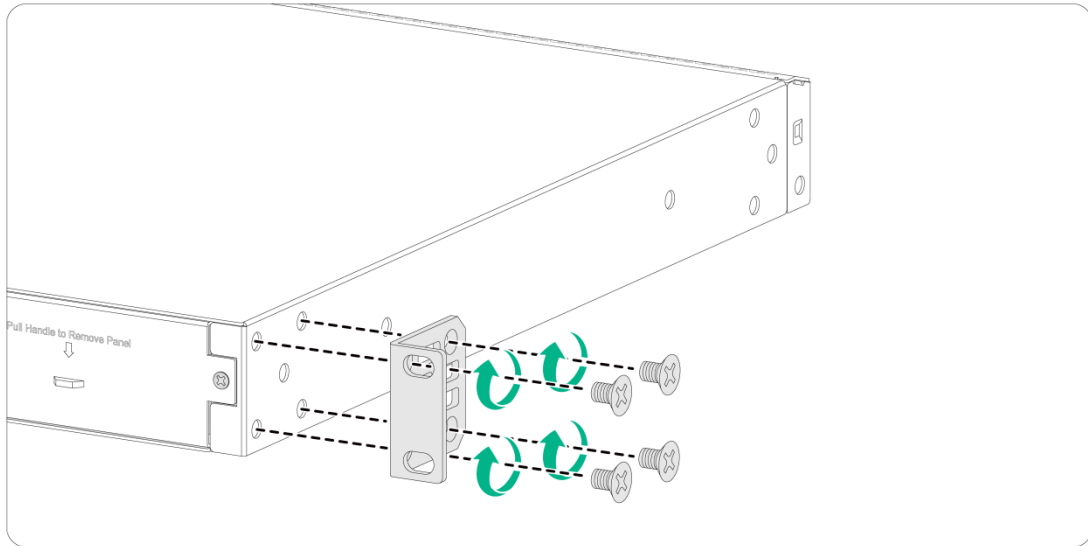


Figure2-9 Attaching the front mounting brackets to the power supply-side mounting position (S6520X-30HF-EI switch as an example)



Mounting the switch in the rack

This task requires two people.

To mount the switch in the rack:

1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.
2. Verify that the front mounting brackets have been securely attached to the switch chassis. See "[Attaching the front mounting brackets to the switch.](#)"
3. Attach cage nuts to the front rack posts.
4. One person supports the bottom of the switch, and moves the switch to an appropriate position based on the installation positions of the front mounting brackets.
5. Another person uses M6 screws and cage nuts to attach the mounting brackets to the rack and verifies that the brackets are level and secure.

Figure2-10 Mounting the switch in the rack (port-side mounting position for the front mounting brackets, S6520X-30HF-EI switch as an example)

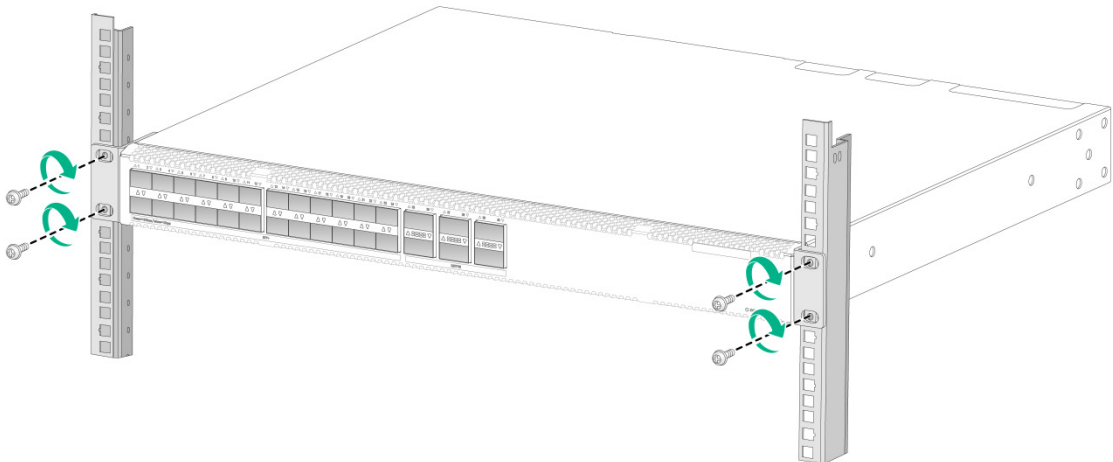
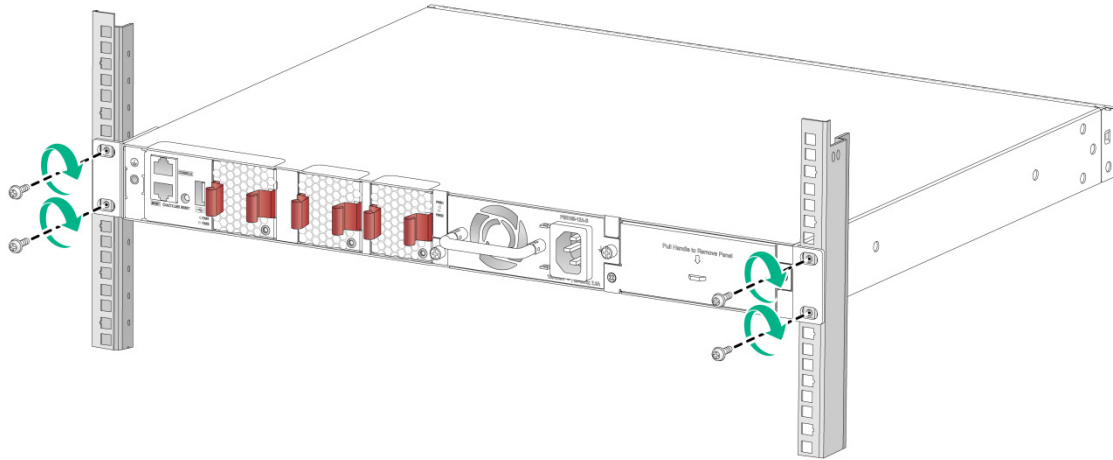


Figure2-11 Mounting the switch in the rack (power supply-side mounting position for the front mounting brackets, S6520X-30HF-EI switch as an example)



Rack-mounting the switch by using front and rear mounting brackets

Attaching the front mounting brackets and shoulder screws to the switch

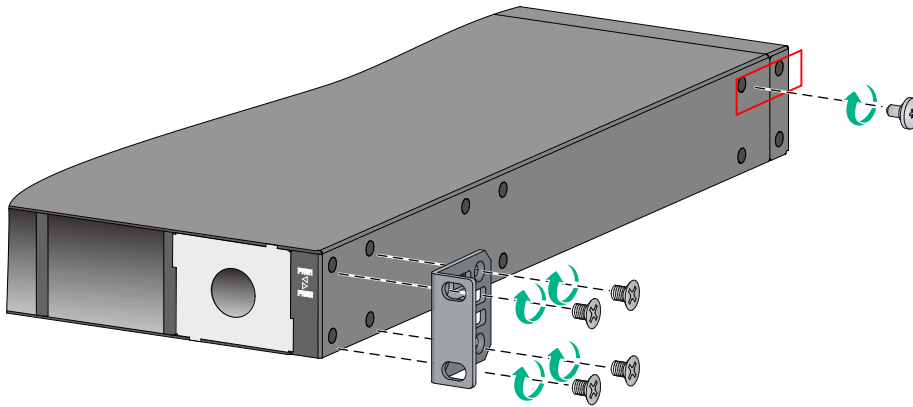
The switch provides two installation positions on its side for the front mounting brackets. One is near the power supply side and one is near the port side. The following procedure attaches the front mounting brackets to the installation position near the power supply side. The port-side mounting is similar.

To attach the front mounting brackets and shoulder screws to the switch:

1. Wear an ESD wrist strap. Make sure the strap makes good skin contact and is reliably grounded.
2. Align the round holes in the wide flange of one front mounting bracket with the screw holes in the chassis. See [Figure2-12](#).
3. Use M4 screws (supplied with the switch) to attach the mounting bracket to the chassis.
4. Repeat the preceding two steps to attach the other mounting bracket to the chassis.
5. Unpack the shoulder screws and attach them to the chassis.

Two installation positions as red-marked in [Figure2-12](#) are available for shoulder screws. Select one as required.

Figure2-12 Attaching the front mounting brackets and shoulder screws to the chassis (S6520X-30QC-EI switch as an example)



Attaching the rear mounting brackets to the rack

1. Determine the switch installation position in the rack.
2. Install cage nuts (user-supplied) in the rear rack posts. Make sure the corresponding cage nuts on the left and right rear rack posts are at the same height.
3. Orient the rear mounting brackets with the wide flange inside or outside the rack as required.
4. Use M6 screws (user-supplied) to attach the rear mounting brackets to the rear posts, as shown in [Figure2-13](#).

Do not fully tighten the M6 screws before mounting the switch in the rack.

Figure2-13 Attaching the rear mounting brackets to the rack with the wide flange inside the rack

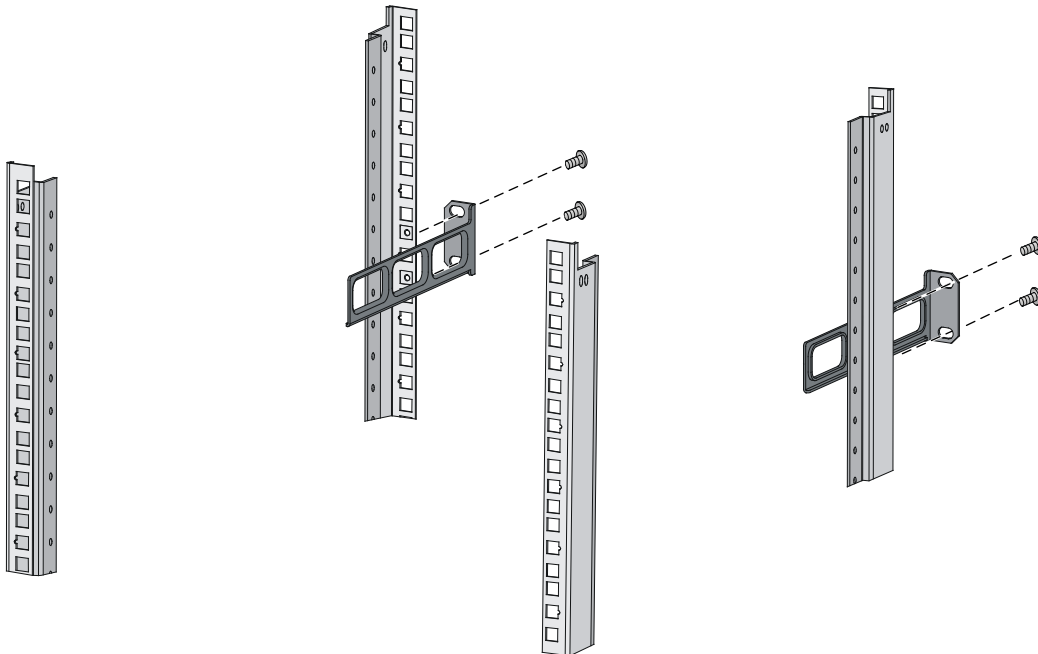
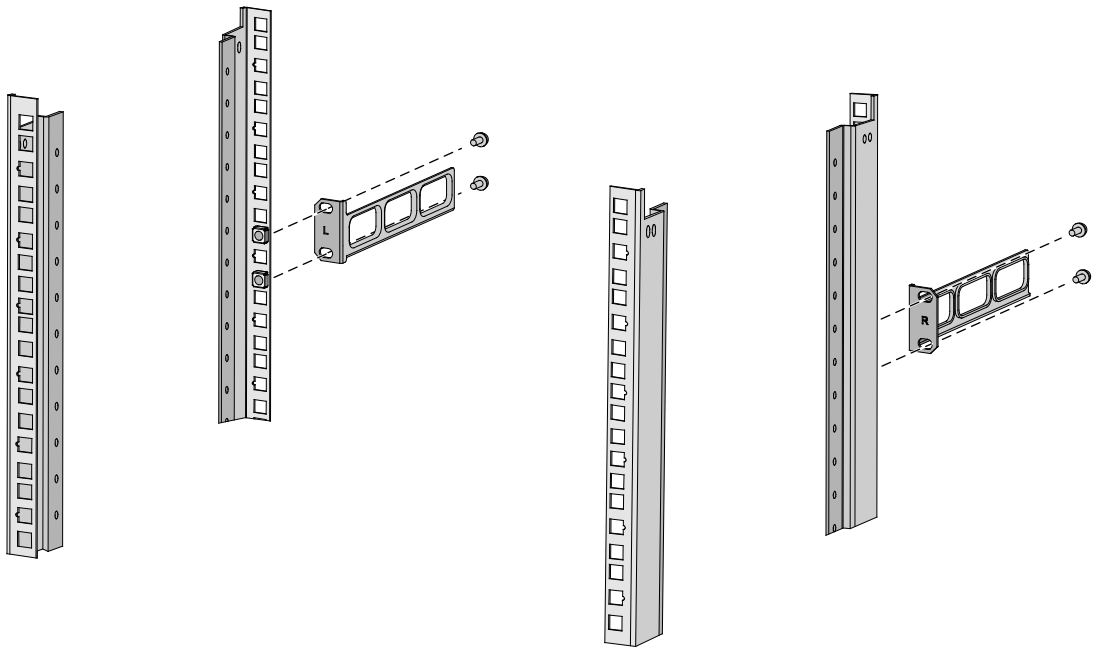


Figure2-14 Attaching the rear mounting brackets to the rack with the wide flange outside the rack



Mounting the switch in the rack

1. Wear an ESD wrist strap. Make sure the strap makes good skin contact and is reliably grounded.
2. Make sure the front mounting brackets and shoulder screws are securely attached to the two sides of the switch.
3. Attach cage nuts (user-supplied) to the front rack posts. Make sure the corresponding cage nuts on the left and right front rack posts are at the same height.
4. One person supports the chassis bottom with one hand, holds the front part of the chassis with the other, and pushes the chassis into the rack gently. Make sure the shoulder screws rest firmly on the upper edge of the rear mounting brackets. See [Figure2-15](#) and [Figure2-16](#).
5. The other person attaches the front mounting brackets with M6 screws (user-supplied) to the front rack posts. Make sure the switch is installed securely in the rack. See [Figure2-15](#) and [Figure2-16](#).

Figure2-15 Mounting the switch in the rack (with the wide flange of the rear mounting brackets inside the rack, S6520X-30QC-EI switch as an example)

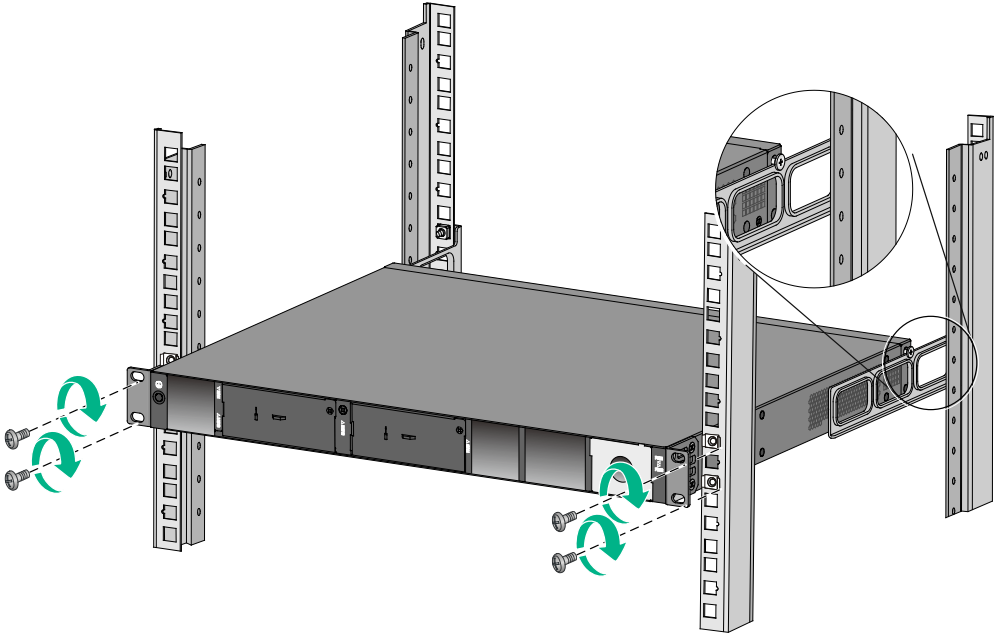
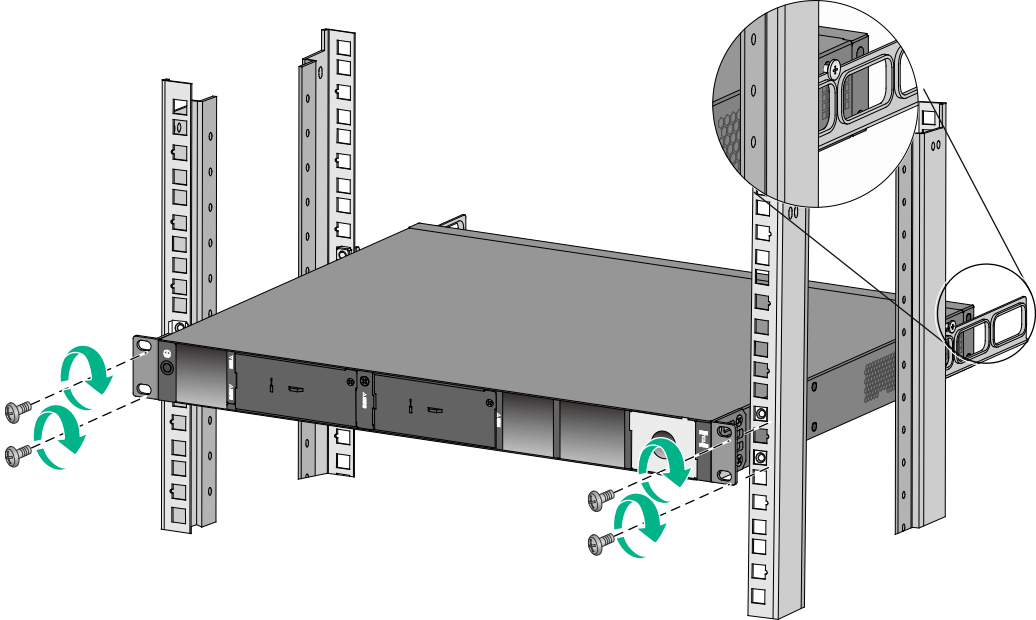


Figure2-16 Mounting the switch in the rack (with the wide flange of the rear mounting brackets outside the rack, S6520X-30QC-EI switch as an example)

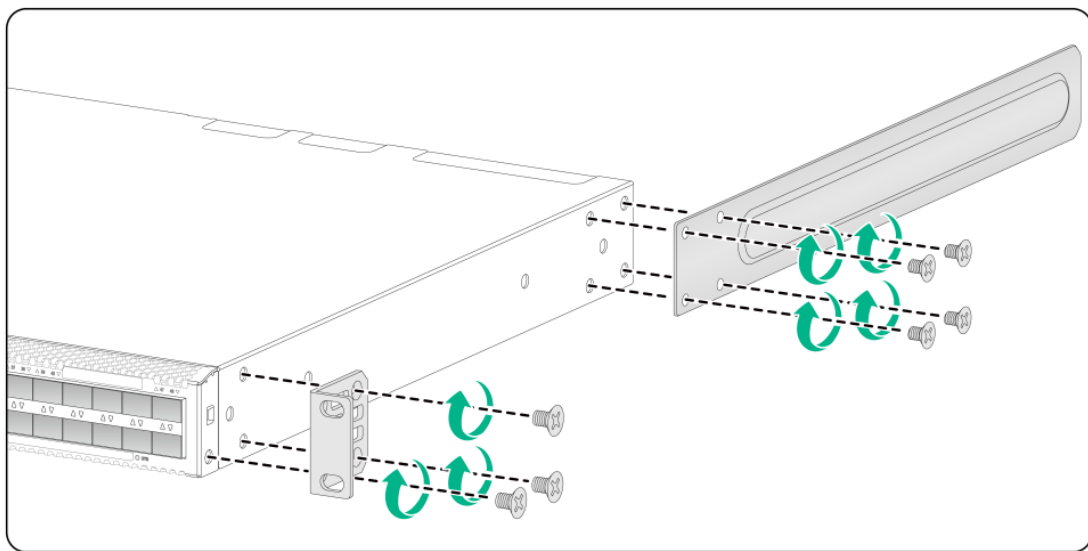


Rack-mounting the switch by using front mounting brackets and extension brackets and rails

Attaching the extension brackets to the chassis

1. Place the wide flange of the mounting bracket against the chassis side panel. Align the mounting bracket installation holes with the appropriate screw holes in the chassis. Use the provided M4 screws to attach the mounting bracket to the chassis.
2. Place the extension bracket against the chassis side panel. Align the extension bracket installation holes with the screw holes. Use the provided M4 screws to attach the chassis rail to the chassis. See [Figure2-17](#).

Figure2-17 Attaching the front mounting brackets and extension brackets to the switch (port-side mounting position for the mounting brackets, S6520X-54HF-EI switch as an example)



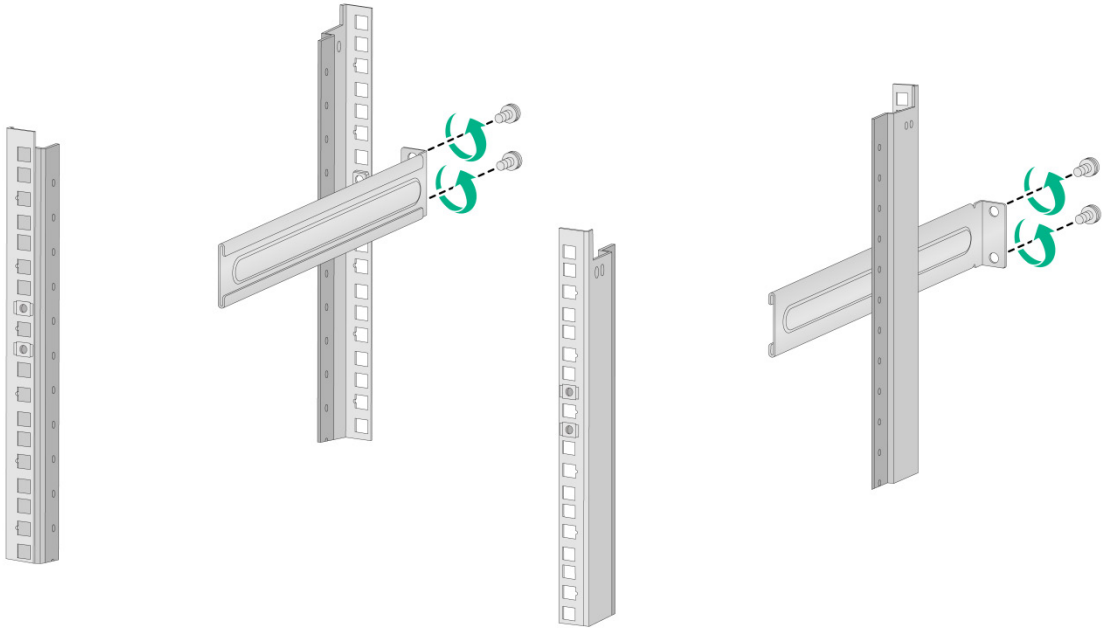
NOTE:

Secure the front mounting brackets and extension brackets to both sides of the chassis in the same way.

Attaching the extension rails to the rack

1. Identify the extension rail installation position in the rack.
2. Install cage nuts in the mounting holes in the rack posts.
3. Align the screw holes in one extension rail with the cage nuts in a rear rack post. Use M6 screws to attach the extension rail to the post. See [Figure2-18](#).
4. Repeat the preceding steps to attach the other extension rail to the other rear rack post.
Keep the two extension rails at the same height so the extension rails can attach into the extension brackets.

Figure2-18 Installing the extension rails



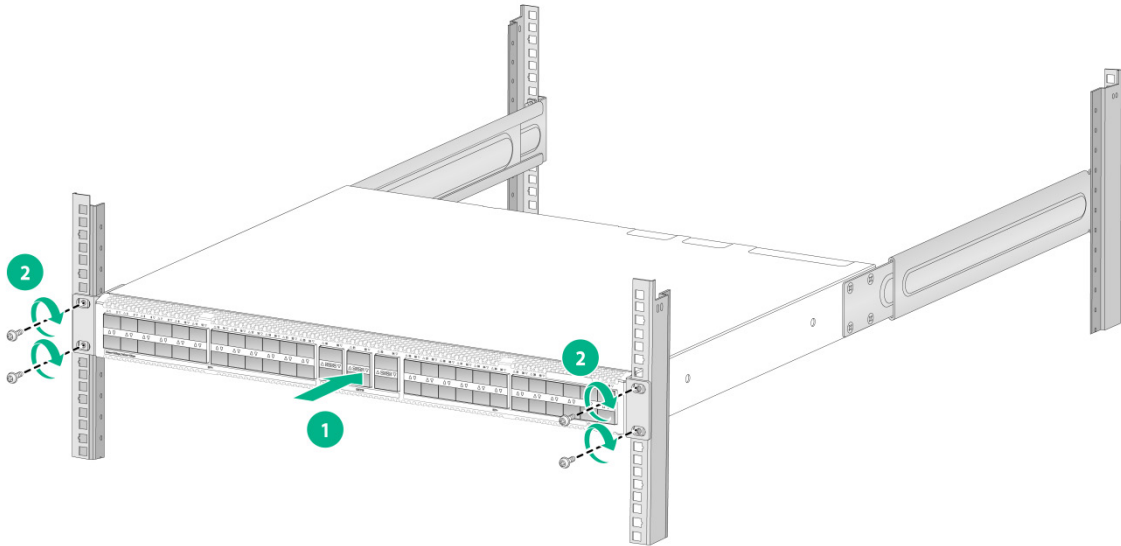
Mounting the switch in the rack

This task requires two people.

To mount the switch in the rack:

1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.
2. Verify that the mounting brackets and extension brackets have been securely attached to the switch chassis. See "[Attaching the extension brackets to the chassis.](#)"
3. Verify that the extension rails have been correctly attached to the rear rack posts. See "[Attaching the extension rails to the rack.](#)"
4. Attach cage nuts to the front rack posts and make sure they are at the same level as the extension rails.
5. One person performs the following operations:
 - a. Supporting the bottom of the switch, aligns the extension brackets with the extension rails on the rack posts.
 - b. Pushes the switch slowly to slide the extension rails along the extension brackets until the mounting brackets are flush with the rack posts.
6. Another person uses M6 screws to attach the mounting brackets to the rack.

Figure2-19 Mounting the switch in the rack (port-side mounting position for the front mounting brackets, S6520X-54HF-EI switch as an example)



Mounting the switch on a workbench

⚠ IMPORTANT:

- Reserve a minimum clearance of 10 cm (3.9 in) around the chassis for heat dissipation.
- Do not place heavy objects on the switch.

To mount the switch on a workbench:

1. Verify that the workbench is sturdy and reliably grounded.
2. Place the switch with bottom up, and clean the round holes in the chassis bottom with dry cloth.
3. Attach the rubber feet to the four round holes in the chassis bottom.
4. Place the switch with upside up on the workbench.

Figure2-20 Mounting the switch on a workbench (1) (S6520X-54HF-EI switch as an example)

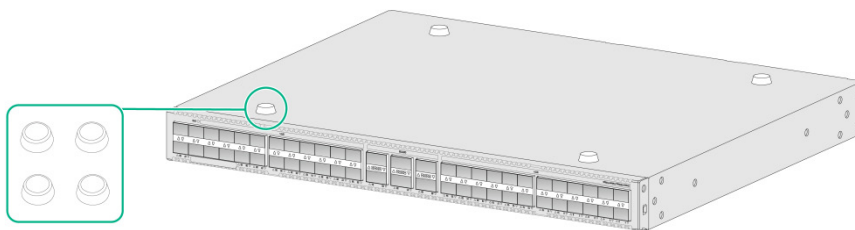
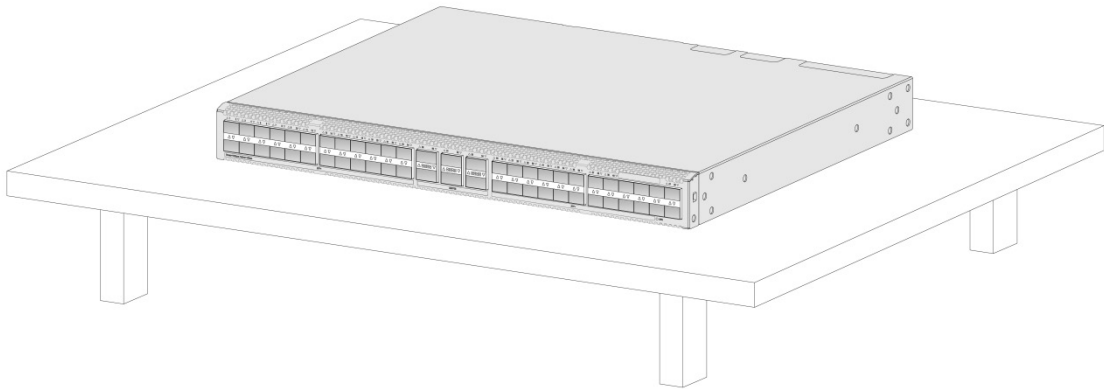


Figure2-21 Mounting the switch on a workbench (2) (S6520X-54HF-EI switch as an example)



Grounding the switch

⚠ WARNING!

- Correctly connecting the grounding cable is crucial to lightning protection and ESD and EMI protection. You must connect the grounding cable correctly and reliably for the switch.
- For information about lightning protection for the switch, see *H3C Network Devices Lightning Protection Guide*.

To ensure correct operation of electrical devices and personal safety, you must ground electrical devices reliably. Use a grounding cable to connect the device to the earthing facility at the installation site.

Reliable grounding of devices brings the following benefits:

- Protects human body from electric shocks.
- Protects devices and power and data lines from damages.
- Prevents electrical fires, lightning strokes, electromagnetic coupling interferences, ESD damages, and ensures correct operation of the power system.

Select a grounding method based on the installation environment.

NOTE:

The power and grounding terminals in this section are for illustration only.

Grounding the switch with a grounding strip

⚠ CAUTION:

- Connect the grounding cable to the grounding strip in the equipment room. Do not connect it to a fire main or lightning rod.
- To guarantee the grounding effect and avoid switch damage, use the grounding cable provided with the switch to connect the switch to a grounding strip in the equipment room.

If a grounding strip is available at the installation site, use the grounding cable provided with the switch to connect the switch to the grounding strip.

Connecting the grounding cable to the chassis

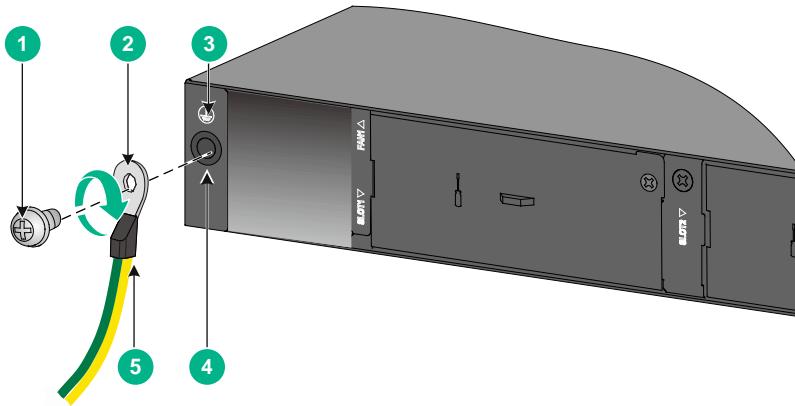
1. Remove the grounding screw from the grounding hole in the chassis.

2. Use the grounding screw to attach the ring terminal of the grounding cable to the grounding screw hole. Fasten the screw.

⚠ IMPORTANT:

Orient the grounding cable as shown in [Figure2-22](#) so that you can easily install or remove the removable components.

Figure2-22 Connecting the grounding cable to the chassis

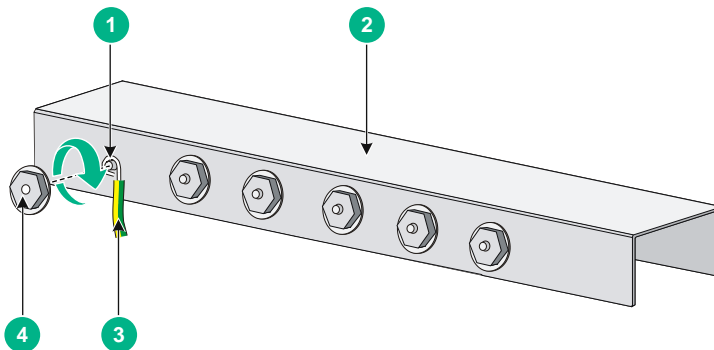


- | | |
|---------------------|--------------------|
| (1) Grounding screw | (2) Ring terminal |
| (3) Grounding sign | (4) Grounding hole |
| (5) Grounding cable | |

Connecting the grounding cable to a grounding strip

1. Use needle-nose pliers to bend the bare metal part to the shape as shown in [Figure2-23](#). Make sure the bended part can securely attached to the grounding post on the grounding strip.
2. Attach the bended part of the grounding cable to the grounding post and use the hex nut to fasten the bended part to the post.

Figure2-23 Connecting the grounding cable to a grounding strip



- | | |
|---------------------|---------------------|
| (1) Grounding post | (2) Grounding strip |
| (3) Grounding cable | (4) Hex nut |

Grounding the switch with a grounding conductor buried in the earth ground

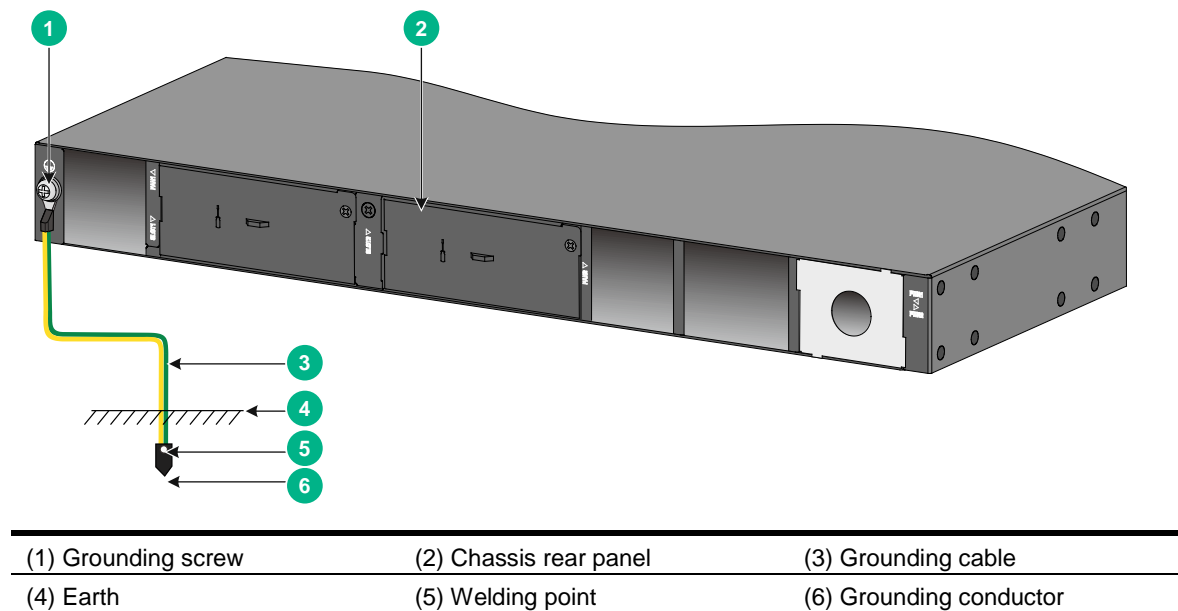
If the installation site does not have grounding strips, but earth ground is available, hammer a 2.5 m (8.20 ft) or longer angle iron or steel tube into the earth ground to act as a grounding conductor. Make sure a minimum of 0.7 m (2.30 ft) is left between the top of the grounding conductor and the ground. In cold areas, bury the grounding conductor below the frozen soil layer. In areas with thin soil or rocky gravel, determine the depth for burying the grounding conductor based on the actual condition.

If zinc-coated steel is used, the following dimensions requirements must be met:

- **Angle iron**—A minimum of 50 × 50 × 5 mm (1.97 × 1.97 × 0.20 in).
- **Steel tube**—A minimum of 3.5 mm (0.14 in) in thickness.
- **Flat steel**—A minimum of 40 × 4 mm (1.57 × 0.16 in).
- **Round steel**—A minimum of 10 mm (0.39 in).

Weld the yellow-green grounding cable to the angel iron or steel tube and treat the joint for corrosion protection.

Figure2-24 Grounding the switch by burying the grounding conductor into the earth ground



Verifying the connection after grounding the switch

- If you ground the switch by using a grounding strip, perform the following tasks:
 - a. Use a multimeter to measure the resistance between the switch grounding terminal and grounding point, and make sure the resistance is less than 0.1Ω.
 - b. Use a grounding resistance tester to measure the grounding resistance of the grounding strip, and make sure the grounding resistance is less than 1Ω.
- If you ground the switch by using a grounding conductor buried in the earth ground, perform the following tasks:
 - a. Use a multimeter to measure the resistance between the switch grounding terminal and grounding point, and make sure the resistance is less than 0.1Ω.
 - b. Use a grounding resistance tester to measure the grounding resistance of the angle iron in the ground, and make sure the grounding resistance is less than 10Ω. For locations with

high soil resistivity, sprinkle some resistance reducer to reduce soil resistivity or replace soil around the grounding strip with soil with lower resistance.

For information about resistance measurement, see *H3C Network Devices Lightning Protection Guide*.

Installing and removing a fan tray

△ CAUTION:

- You can power on the switch only when the switch is fully configured with fan trays of the same model.
- Do not leave any slots empty when the switch is operating. Install a module or filler panel in the slots.
- If multiple fan trays fail during switch operation, do not remove them simultaneously. Replace the fan trays one after another and finish replacing each fan tray within 3 minutes.
- If one fan tray fails while the switch is operating, perform either of the following tasks:
 - If the ambient temperature is not higher than 27°C (80.6°F), replace the fan tray within 24 hours and make sure the failed fan tray is in position before the replacement.
 - If the ambient temperature is higher than 27°C (80.6°F), replace the fan tray immediately.
- If you power cycle the switch after a fan tray fails, the switch will fail to start up.

The switch comes with empty fan tray slots. Select fan trays for the switch that match the ventilation requirements at the installation site.

- The LSWM1FANSCE fan tray provides power supply-side intake and port- and chassis-side exhaust airflows. The fan tray handle is blue.
- The LSWM1FANSCBE fan tray provides port- and chassis-side intake and power supply-side exhaust airflows. The fan tray handle is red.
- The LSPM1FANSA-SN fan tray provides power supply-side intake and port-side exhaust airflows.
- The LSPM1FANSB-SN fan tray provides port-side intake and power supply-side exhaust airflows.

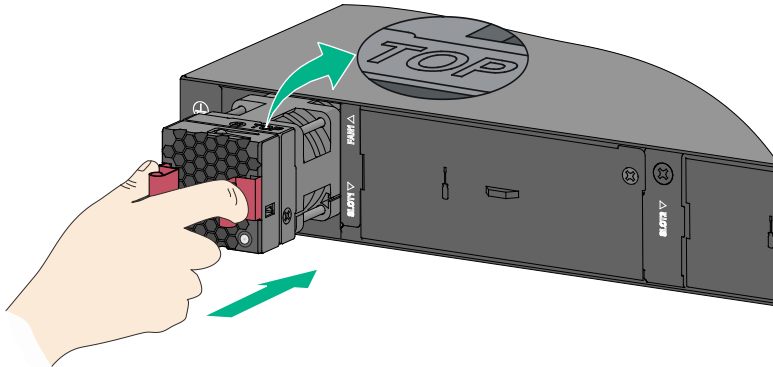
For the fan trays available for the switch and their specifications, see *S6520X-EI & S6520X-HI Switch Series Hardware Information and Specifications*.

Installing a fan tray

1. Wear an ESD wrist strap. Make sure the strap makes good skin contact and is reliably grounded.
2. Unpack the fan tray and verify that the fan tray model is as required.
3. Orient the fan tray with the TOP mark facing up.
4. Align the fan tray with the fan tray slot. Holding the fan tray handles, slide the fan tray into the slot along the guide rails. Make sure the fan tray is fully seated in the slot and has a firm contact with the backplane.

To prevent damage to the fan tray or the connectors in the chassis, insert the fan tray gently. If you encounter a hard resistance while inserting the fan tray, pull out the fan tray and insert it again.

Figure2-25 Installing a fan tray



ⓘ **IMPORTANT:**

- In versions earlier than Release 6326 (not inclusive) or Release 65xx versions earlier than Release 6525 (not inclusive), you must use the **fan prefer-direction** command to set the preferred airflow direction of the switch to be consistent with that of the fan trays the first time you log in to the switch. If the fan trays have a different airflow direction than the preferred one, the system outputs traps and logs. By default, the preferred airflow direction of the switch is from the port side to the power supply side, the same as that of the LSWM1FANSCBE fan tray. For more information about the **fan prefer-direction** command, see the configuration guides and command references for the device.
 - In other versions, the switch does not check the preferred airflow direction at system start. You only need to ensure consistent airflow directions of all fan trays on the switch. If the airflow directions of the fan trays are inconsistent, the system outputs traps and logs.
-

Removing a fan tray

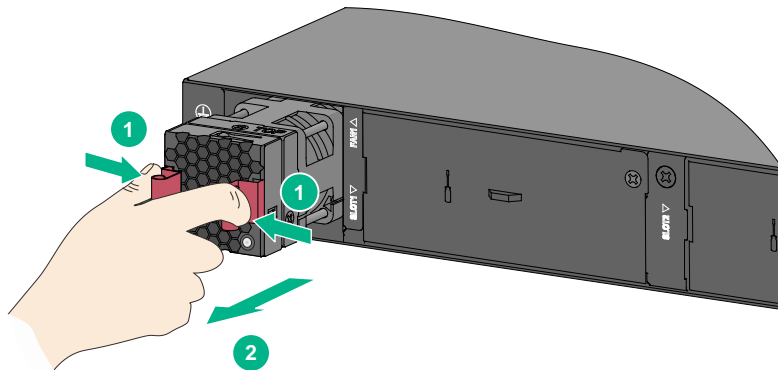
⚠ **WARNING!**

- To avoid bodily injury, disturbing the dynamic balance of the fan tray, and causing loud noises, do not touch the rotation axis, or any bare wires, fan blades, or terminals on the fan tray.
 - Do not place the fan tray in a moist place. Prevent liquid from entering the fan tray.
 - Fan trays with faulty internal wiring and conductors require maintenance from maintenance engineers. Do not disassemble the faulty fan trays.
-

To remove a fan tray:

1. Wear an ESD wrist strap. Make sure the strap makes good skin contact and is reliably grounded.
2. Holding the fan tray handles, pull the fan tray slowly out of the slot along the guide rails.
3. Put the removed fan tray in an antistatic bag.

Figure2-26 Removing a fan tray



Installing and removing a power supply

The switch provides two power supply slots. It comes with power supply slot PWR1 empty and power supply slot PWR2 installed with a filler panel. You can install one or two power supplies for the switch as required. For the power supplies available for the switch and their specifications, see *S6520X-EI & S6520X-HI Switch Series Hardware Information and Specifications*.

⚠ WARNING!

- To avoid bodily injury or switch damage, strictly follow the procedures in [Figure2-27](#) and [Figure2-28](#) to install and remove a power supply.
- You must provide a circuit breaker for each power supply.

Figure2-27 Installation procedure

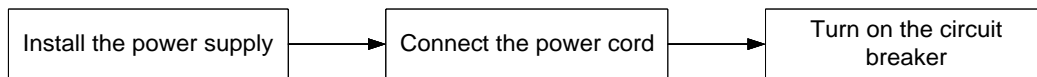
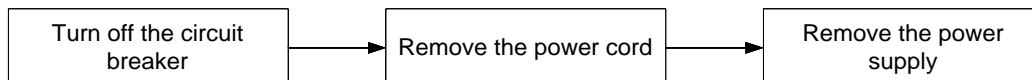


Figure2-28 Removal procedure



⚠ CAUTION:

- To prevent damage to the power supply and the connectors on the backplane, insert the power supply gently. If you encounter a hard resistance when inserting the power supply, pull out the power supply and insert it again. Make sure the power supply has a good contact with the connectors.
- When the switch has two power supplies working in 1+1 redundancy, removing one power supply does not affect system operation. If the switch has only one power supply, removing the power supply causes power down of the switch.
- If you are not to install a new power supply after removing the old one, install a filler panel in the slot in time.
- Use a torque of 5 kgf-cm (0.49 Nm) to fasten the captive screws on a power supply.

Installing a PSR250-12A, PSR250-12A1, or PSR450-12 power supply

The installation procedure is the same for the PSR250-12A, PSR250-12A1, and PSR450-12D power supplies. The following procedure installs a PSR250-12A1 power supply.

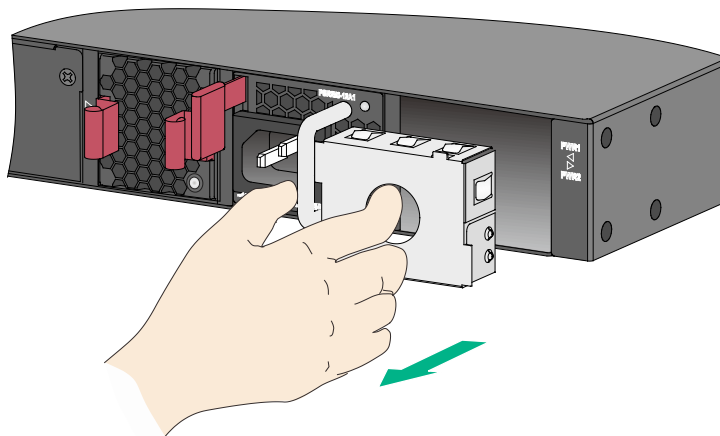
To install a PSR250-12A1 power supply:

1. Wear an ESD wrist strap. Make sure the strap makes good skin contact and is reliably grounded.
2. Remove the filler panel, if any, from the target power supply slot.

Put your forefinger into the hole in the filler panel and then pull the filler panel out of the slot gently.

Keep the removed filler panel secure for future use.

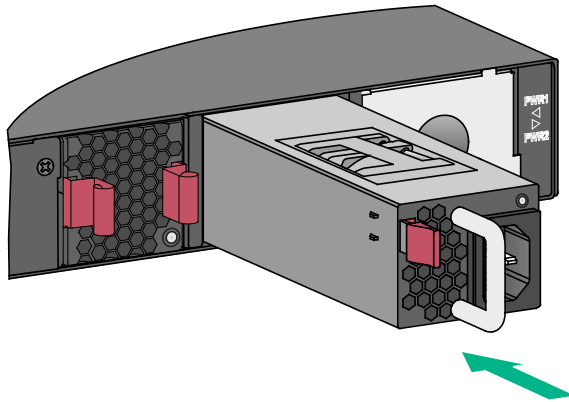
Figure2-29 Removing the filler panel from the target power supply slot



3. Unpack the power supply. Make sure the power supply model is as required.
Keep the packaging box and packaging bag for the power supply secure for future use.
4. Correctly orient the power supply. Make sure the lettering on the power supply is upward.
5. Align the power supply with the power supply slot. Grasping the handle of the power supply with one hand and supporting its bottom with the other, slide the power supply slowly into the slot along the guide rails until the latch of the power supply clicks into the slot.

To prevent damage to the power supply or the connectors on the backplane, insert the power supply gently. If you encounter a hard resistance when inserting the power supply, pull out the power supply and insert it again.

Figure2-30 Installing a power supply



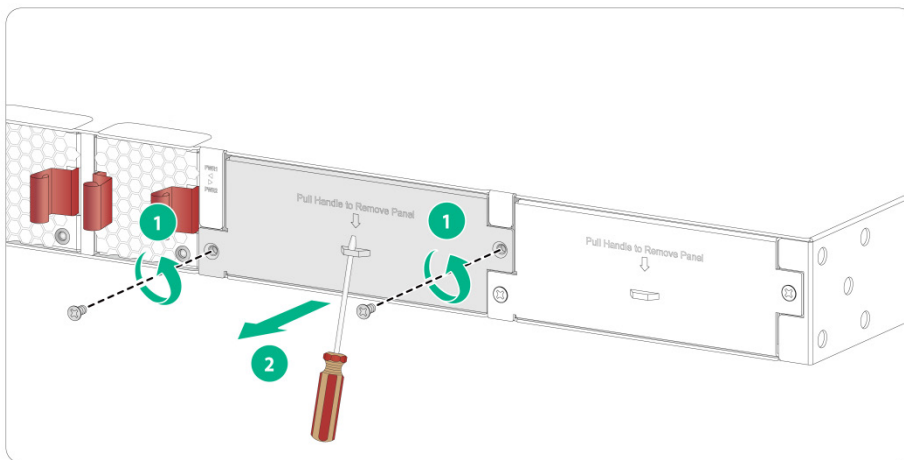
Installing a PSR180-12A-F or PSR180-12A-B power supply

The installation procedure is the same for the PSR180-12A-F and PSR180-12A-B power supplies. The following procedure installs a PSR180-12A-B power supply.

To install a PSR180-12A-B power supply:

1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.
2. Remove the filler panel from the target power supply slot as follows:
 - a. Remove the screws from the filler panel.
 - b. Use a flathead screwdriver to remove the filler panel.

Figure2-31 Removing the filler panel

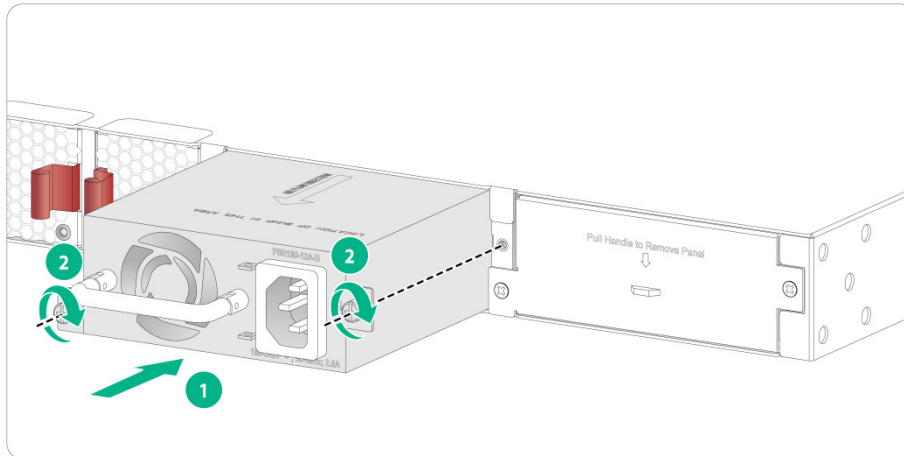


3. Unpack the power supply and verify that the power supply model is correct.
4. Correctly orient the power supply with the power supply slot (use the letters on the power supply faceplate for orientation), grasp the handle of the power supply with one hand and support its bottom with the other, and slide the power supply slowly along the guide rails into the slot (see callout 1 in [Figure2-32](#)).
5. Fasten the captive screws on the power supply with a Phillips screwdriver to secure the power supply in the chassis (see callout 2 in [Figure2-32](#)). If the captive screw cannot be tightly fastened, verify the installation of the power supply.

As a best practice, use a torque of 5 kgf-cm (0.49 Nm) to fasten the captive screws.

6. Install the filler panel over the empty power supply slot to prevent dust and ensure good ventilation if you install only one power supply.

Figure2-32 Installing a power supply



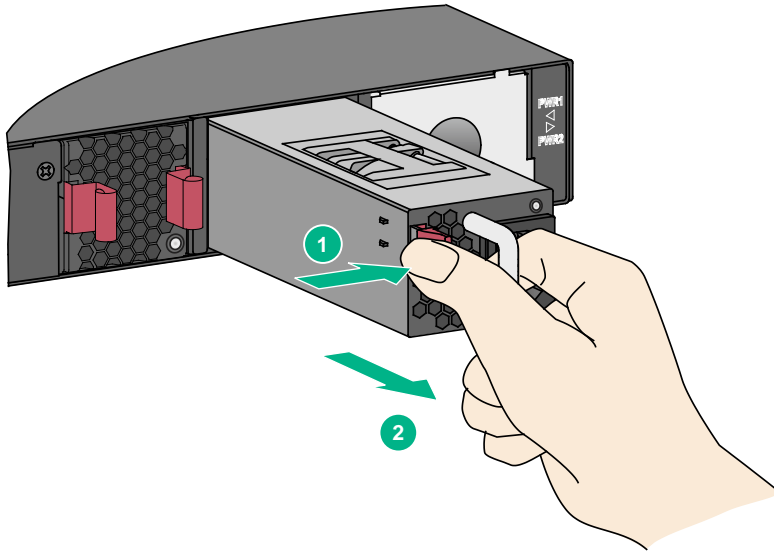
Removing a PSR250-12A or PSR250-12A1 power supply

The removal procedure is the same for the PSR250-12A and PSR250-12A1 power supplies. The following procedure removes a PSR250-12A1 power supply.

To remove a PSR250-12A1 power supply:

1. Wear an ESD wrist strap. Make sure the strap makes good skin contact and is reliably grounded.
2. Disconnect the power cord.
3. Press the latch on the power supply towards the handle side, and pull the power supply part way out of the slot along the guide rails.
4. Grasping the handle of the power supply with one hand and supporting module bottom with the other, pull the power supply slowly out of the slot along the guide rails.
5. Place the removed power supply on an anti-static mat or put it into its packaging bag.
6. If you are not to install a new power supply in the slot, install a filler panel in the slot to prevent dust and ensure good ventilation.

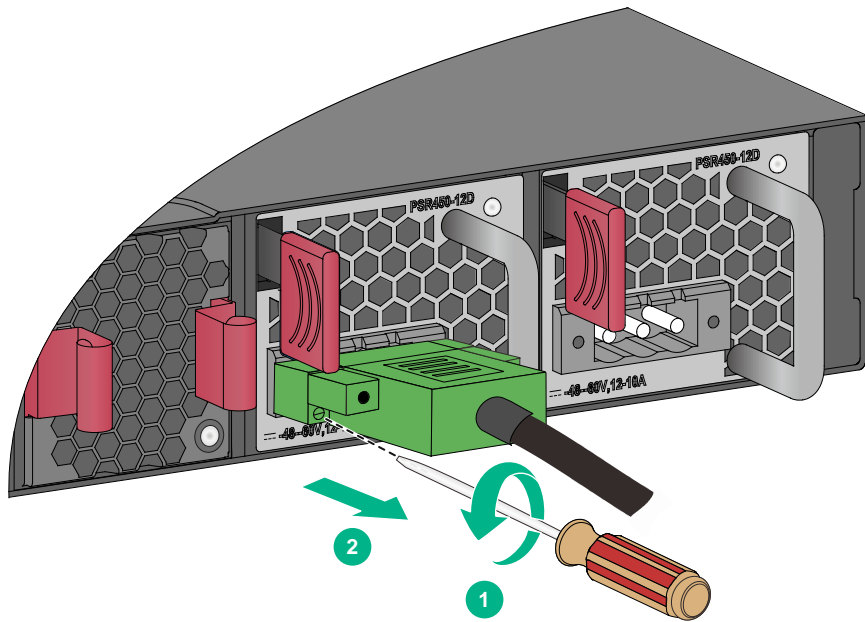
Figure2-33 Removing a power supply



Removing a PSR450-12D power supply

1. Wear an ESD wrist strap. Make sure the strap makes good skin contact and is reliably grounded.
2. Remove the power cord from the power supply. As shown in [Table3-2](#), use a flathead screwdriver to loosen the two screws on the power cord connector and then pull the connector out.
3. Holding the power supply handle with one hand and using your thumb to press the latch on the power supply rightwards, pull the power supply part way out of the slot. Supporting the power supply bottom with the other, pull the power supply slowly out of the slot.

Figure2-34 Removing the power cord from a PSR450-12D power supply



-
- (1) Use a flathead screwdriver to loosen the two screws on the power cord connector
 - (2) Pull the power cord connector out
-

Removing a PSR180-12A-F or PSR180-12A-B power supply

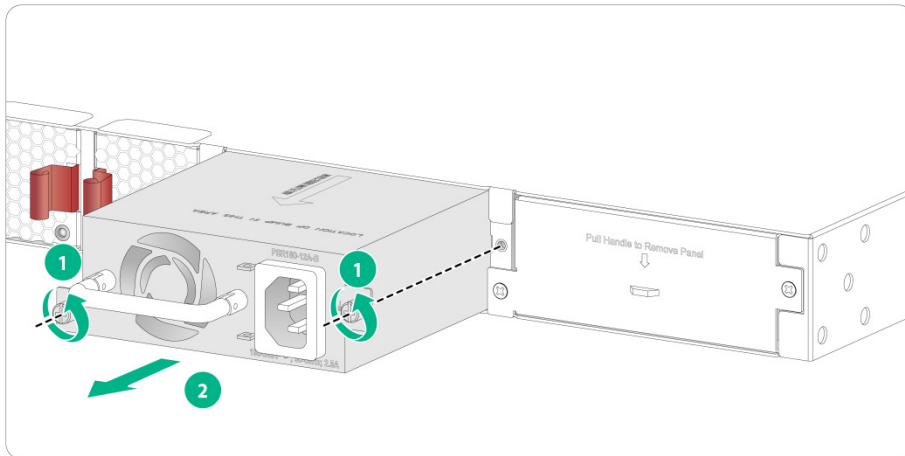
The removal procedure is the same for the PSR180-12A-F and PSR180-12A-B power supplies. The following procedure removes a PSR180-12A-B power supply.

To remove a PSR180-12A-B power supply:

1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.
2. Disconnect the power cord.
3. Loosen the captive screws on the power supply with a Phillips screwdriver until they are completely disengaged.
4. Grasp the handle of the power supply with one hand and pull it out a little, support the bottom with the other hand, and pull the power supply slowly along the guide rails out of the slot.

Put away the removed power supply in an antistatic bag or the power supply package bag for future use.

Figure2-35 Removing a power supply



Connecting the power cord

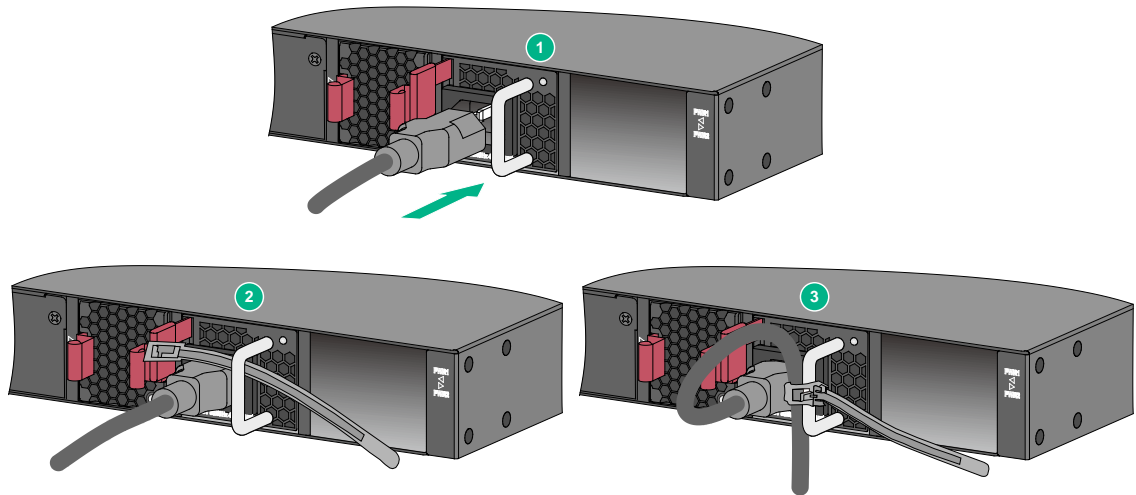
Connecting the power cord for a PSR250-12A or PSR250-12A1 power supply

The power cord connection procedure is the same for the PSR250-12A and PSR250-12A1 power supplies. The following procedure connects the power cord for a PSR250-12A1 power supply.

To connect the power cord for a PSR250-12A1 power supply:

1. Wear an ESD wrist strap. Make sure the strap makes good skin contact and is reliably grounded.
2. Plug the female connector of the power cord into the power receptacle on the power supply, as shown by callout 1 in [Figure2-36](#).
3. Use a cable tie to secure the power cord to the handle of the power supply, as shown by callout 2 and callout 3 in [Figure2-36](#).
4. Connect the other end of the power cord to an AC power source or a high-voltage DC power source.

Figure2-36 Connecting the power cord for a PSR250-12A1 power supply



Connecting the power cord for a PSR180-12A-F or PSR180-12A-B power supply

The power cord connection procedure is similar for the PSR180-12A-F and PSR180-12A-B power supplies. The following procedure connects the power cord for a PSR180-12A-B power supply.

To connect the power cord for a PSR180-12A-B power supply:

1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.
2. Attach the power cord retainer clip (supplied with the power supply) into the two holes next to the AC-input power receptacle on the power supply, and pull the retainer clip leftwards (see [Figure2-37](#)).
3. Connect the female connector of the AC power cord supplied with the power supply to the power receptacle (see callout 1 in [Figure2-38](#)).
4. Pull the retainer clip rightwards to secure the connector to the AC-input power receptacle (see callout 2 in [Figure2-38](#)).
5. Connect the other end of the power cord to an AC power source.

Figure2-37 Connecting a power cord (1)

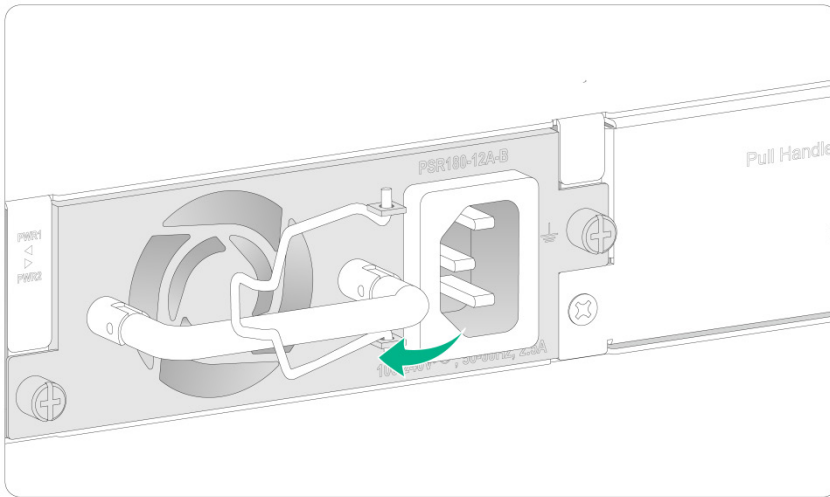
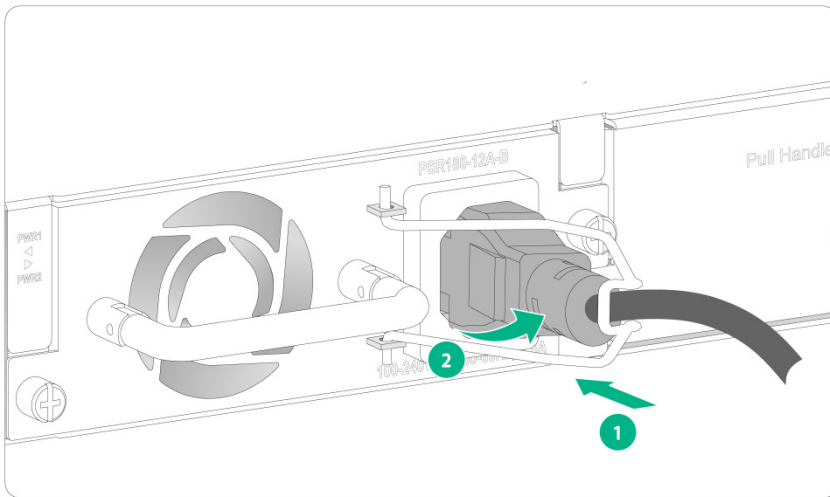


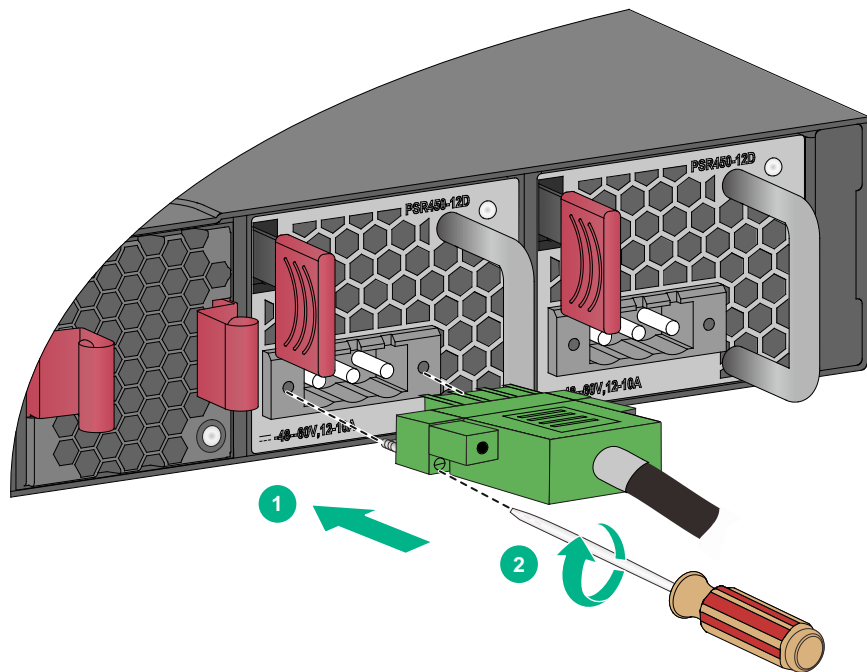
Figure2-38 Connecting a power cord (2)



Connecting the DC power cord for a PSR450-12D power supply

1. Correctly orient the DC power cord connector and insert it into the DC power input receptacle on the power supply, as shown by callout 1 in [Figure2-39](#).
If you orient the DC power cord connector upside down, you cannot insert it into the DC power input receptacle.
2. Use a flathead screwdriver to fasten the two screws on the power cord connector to secure the connector in place, as shown by callout 2 in [Figure2-39](#).
3. Connect the other end of the DC power cord to an external DC power supply system.

Figure2-39 Connecting the DC power cord for a PSR450-12D power supply



Installing and removing an expansion card

⚠ CAUTION:

- Do not touch the surface-mounted components on an expansion card directly with your hands.
- Do not use excessive force when you install or remove an expansion card.
- You can install or remove an expansion card when the switch is operating correctly. Do not install or remove an expansion card while the switch is starting up.

The S6520X-30QC-EI, S6520X-54QC-EI, S6520X-30HC-EI, S6520X-54HC-EI, S6520X-30QC-HI, S6520X-54QC-HI, S6520X-30HC-HI, and S6520X-54HC-HI switches each provide two expansion slots on the rear panel. For the expansion cards available for the switch, see *Hardware Information and Specifications*.

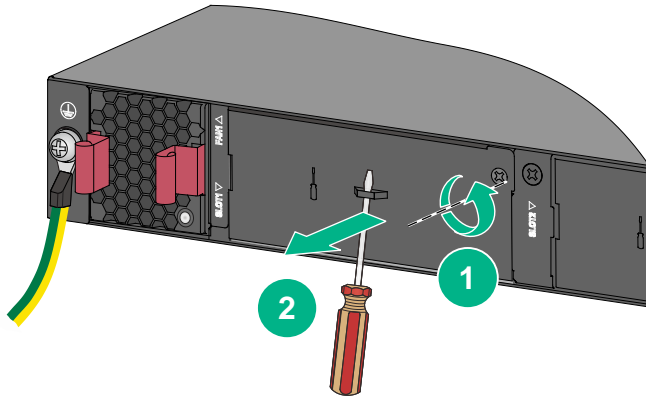
The installation and removal procedures are similar for expansion cards. The following procedures install and remove LSWM4SP8PM (with an ejector lever) and LSPM6FWD (without an ejector lever) interface modules.

Installing an expansion card

1. Wear an ESD wrist strap. Make sure the strap makes good skin contact and is reliably grounded.
2. Use a Phillips screwdriver to remove the screw on the filler panel in the target expansion slot. Then remove the filler panel.

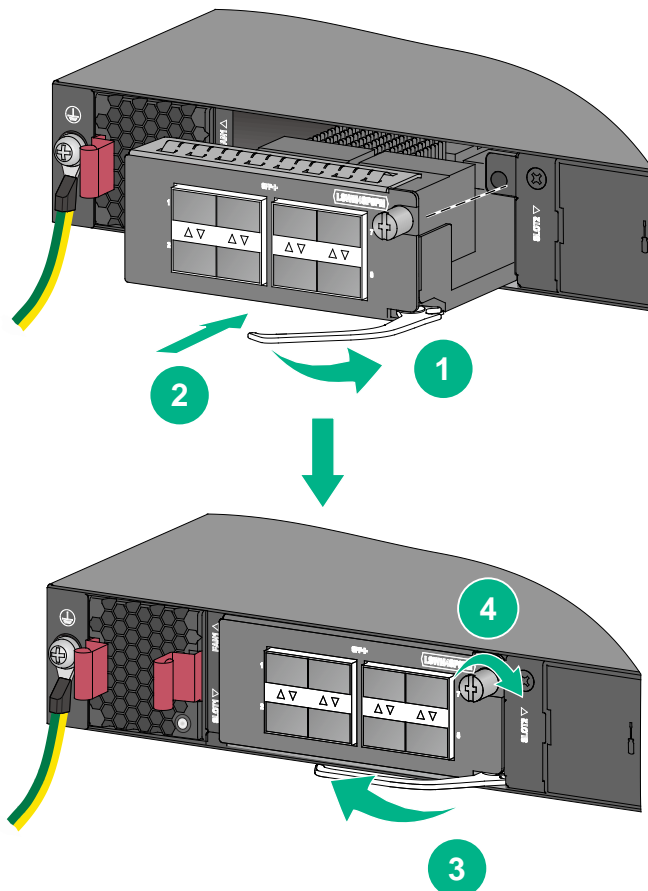
Keep the filler panel secure for future use.

Figure2-40 Removing the filler panel from the target expansion slot



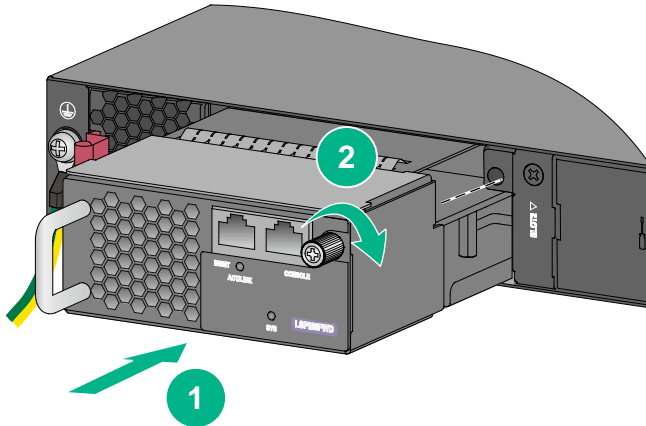
3. Unpack the expansion card.
4. (Optional.) If the expansion card has an ejector lever, perform the following steps to install it:
 - a. Fully open the ejector lever, as shown by callout 1 in [Figure2-41](#).
 - b. Gently push the expansion card into the slot along the guide rails until the expansion card has good contact with the chassis. See callout 2 in [Figure2-41](#).
 - c. Close the ejector lever, as shown by callout 3 in [Figure2-41](#).
 - d. Use a Phillips screwdriver to fasten the captive screw on the expansion card to secure the card in the slot. See callout 4 in [Figure2-41](#).

Figure2-41 Installing an expansion card with an ejector lever (LSWM4SP8PM)



5. (Optional.) If the expansion card does not have an ejector lever, perform the following steps to install it:
 - a. Gently push the expansion card into the slot along the guide rails until the expansion card has good contact with the chassis. See callout 1 in [Figure2-42](#).
 - b. Use a Phillips screwdriver to fasten the captive screw on the expansion card to secure the card in the slot. See callout 2 in [Figure2-42](#).

Figure2-42 Installing an expansion card without an ejector lever (LSPM6FWD)



NOTE:

An LSPM6FWD firewall card including its handle adds 75 mm (2.95 in) to the chassis depth.

Removing an expansion card

1. Wear an ESD wrist strap. Make sure the strap makes good skin contact and is reliably grounded.
2. Use a Phillips screwdriver to remove the captive screw on the expansion card.
3. Fully open the ejector lever.
Skip this step for an expansion card that does not have an ejector lever.
4. Gently pull the expansion card out of the slot along the guide rails.
5. If you are not to install a new expansion card, install a filler panel in the slot to prevent dust and ensure good ventilation in the switch.

Verifying the installation

Before powering on the switch, verify the following items:

- There is enough space around the switch for heat dissipation.
- The rack or workbench on which the switch is mounted is stable.
- The grounding cable is securely connected.
- The power source specifications are as required by the device.
- The power cords are correctly connected.
- If part of the network cable for a port is routed outdoors, verify that a network port lightning protector is used for the port.
- If a power line is routed from outdoors, verify that a surge protected power strip is used for the switch.

NOTE:

For information about lightning protection for the switch, see *H3C Lightning Protection Guide*.

3 Accessing the switch for the first time

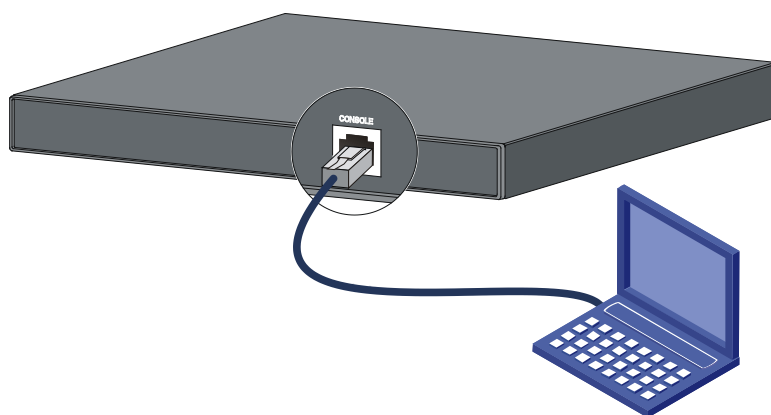
Connecting the switch to a configuration terminal

The S6520X-30QC-EI, S6520X-54QC-EI, S6520X-30HC-EI, S6520X-54HC-EI, S6520X-30QC-HI, S6520X-54QC-HI, S6520X-30HC-HI, and S6520X-54HC-HI switches each provide a serial console port and a micro USB console port for connecting to a configuration terminal. If you connect configuration terminals to both ports, only the micro USB console port is effective.

The S6520X-30HF-EI, S6520X-54HF-EI, S6520X-30HF-HI, and S6520X-54HF-HI switches each provide only a serial console for connecting to a configuration terminal.

In [Figure3-1](#), the switch is connected to a configuration terminal (PC as an example) from the serial console port.

Figure3-1 Connecting the switch to a configuration terminal



As shown in [Table3-1](#), three types of console cables can be used for connecting the switch to a configuration terminal. As a best practice, use a serial console cable for connection. The switch is not provided with a serial console cable or a micro USB console cable. Purchase a serial console cable from H3C or prepare a micro USB console cable yourself.

Table3-1 Connection methods and console cables

Connection method	Applicable switch models	Console cable type	Configuration terminal-side connector	Switch-side connector
Using the serial console port for connection	All S6520X-EI and S6520X-HI models	DB9-to-RJ45 console cable	DB-9 female connector	RJ-45 connector
		USB-to-RJ45 console cable	USB connector	RJ-45 connector
Using the micro USB console port for connection	S6520X-30QC-EI S6520X-54QC-EI S6520X-30HC-EI S6520X-54HC-EI S6520X-30QC-HI S6520X-54QC-HI S6520X-30HC-HI	Micro USB console cable	USB connector	Micro USB connector

Connection method	Applicable switch models	Console cable type	Configuration terminal-side connector	Switch-side connector
	S6520X-54HC-HI			

Connecting a DB9-to-RJ45 console cable

⚠ CAUTION:

Follow these guidelines when you connect a DB9-to-RJ45 console cable:

- Identify the mark on the serial console port and make sure you are connecting to the correct port.
- The serial ports on PCs do not support hot swapping. To connect a PC to an operating switch, first connect the PC end. To disconnect a PC from an operating switch, first disconnect the switch end.

A DB9-to-RJ45 console cable is an 8-core shielded cable, with a crimped RJ-45 connector at one end for connecting to the serial console port of the switch, and a DB-9 female connector at the other end for connecting to the serial port on the console terminal.

Figure3-2 DB9-to-RJ45 console cable

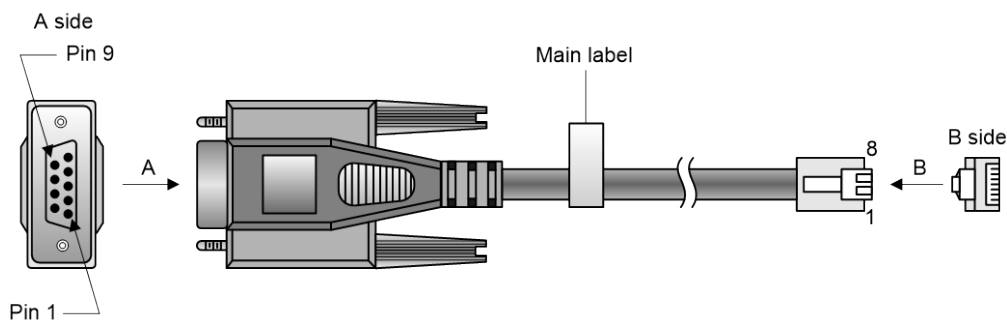


Table3-2 DB9-to-RJ45 console cable signal pinout

RJ-45	Signal	DB-9	Signal
1	RTS	8	CTS
2	DTR	6	DSR
3	TXD	2	RXD
4	SG	5	SG
5	SG	5	SG
6	RXD	3	TXD
7	DSR	4	DTR
8	CTS	7	RTS

To connect the switch to a configuration terminal (for example, a PC) through a DB9-to-RJ45 console cable:

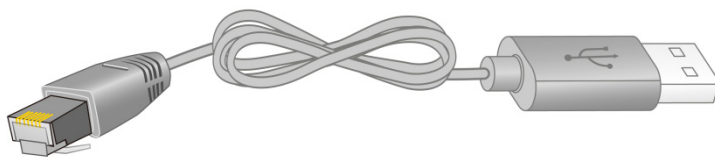
1. Plug the DB-9 female connector of the DB9-to-RJ45 console cable to the serial port on the PC.
2. Connect the RJ-45 connector to the serial console port on the switch.

Connecting a USB-to-RJ45 console cable

ⓘ **IMPORTANT:**

- To use a USB-to-RJ45 console cable to connect the switch to a configuration terminal, first download and install the USB-to-RJ45 console driver on the configuration terminal and then connect the USB-to-RJ45 console cable to the configuration terminal.
 - If you have connected a USB-to-RJ45 console cable to the configuration terminal before driver installation, you must remove and reconnect the USB-to-RJ45 console cable to the configuration terminal.
-

Figure3-3 USB-to-RJ45 console cable

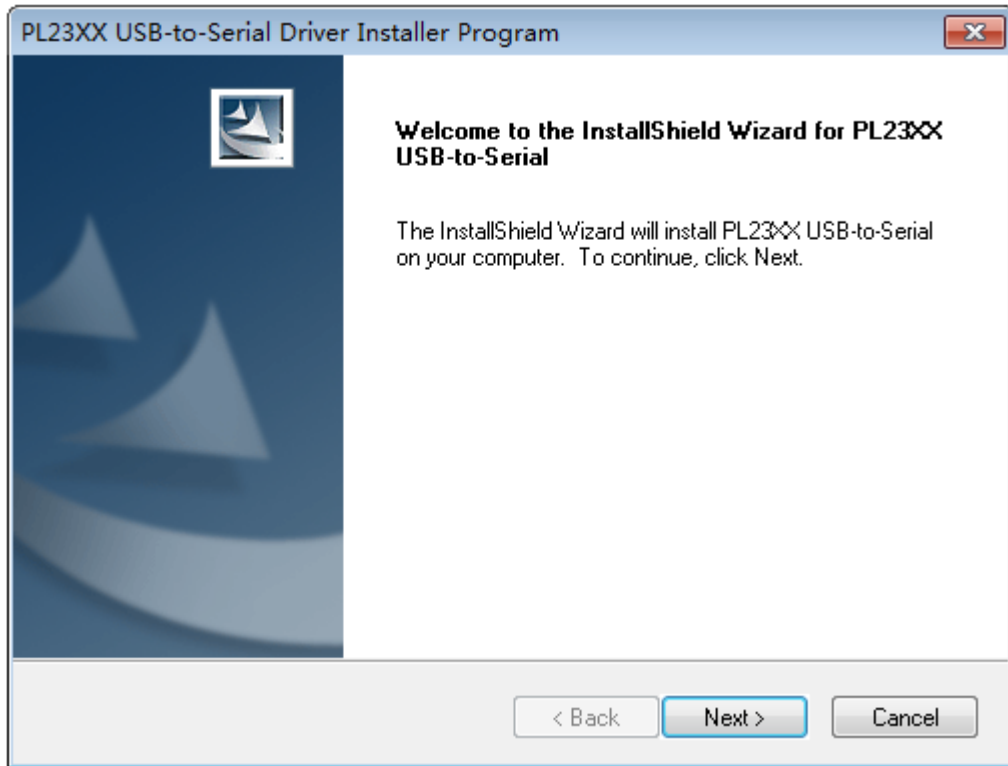


The following installs the driver on the Windows system. To install the driver on other operating systems, see the installation guide in the driver compression package named by the corresponding operating system.

To connect the switch to the configuration terminal through a USB-to-RJ45 console cable:

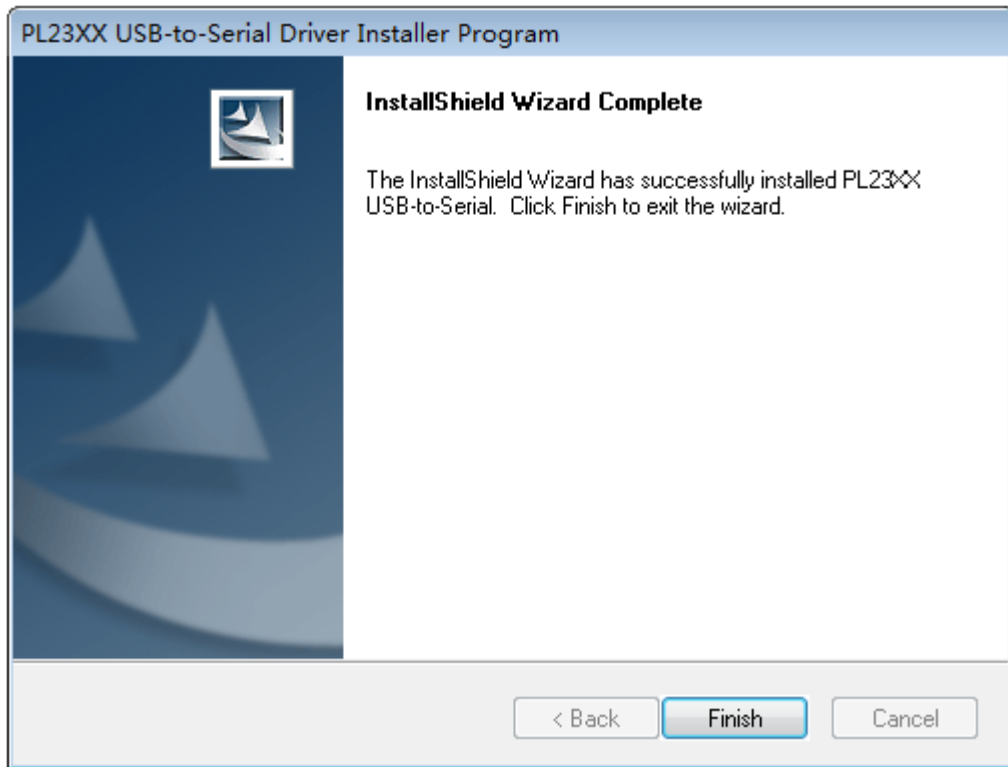
1. Click the following link, or copy it to the address bar on your browser and download the USB-to-RJ45 console driver.
http://www.h3c.com/en/home/USB_to_RJ45_Console/
2. View the TXT file **Read me** in the Windows folder to check whether the Windows system of the configuration terminal supports the driver.
3. If the Windows system supports the driver, install **PL23XX-M_LogoDriver_Setup_v200_20190815.exe**.
4. Click **Next** on the welcome page of the driver installation wizard.

Figure3-4 Driver installation wizard



5. Click **Finish** after the drive installation is completed.

Figure3-5 Finishing the driver installation

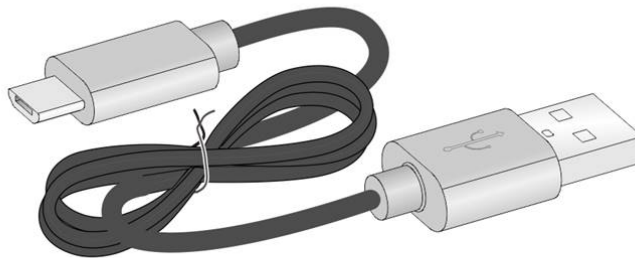


6. Connect the standard USB connector of the cable to the USB port of the configuration terminal.
7. Connect the RJ-45 connector of the cable to the console port of the switch.

Connecting a micro USB console cable

A micro USB console cable has a micro USB Type B connector at one end to connect to the micro USB console port of the switch, and a standard USB Type A connector at the other end to connect to the USB port on the configuration terminal.

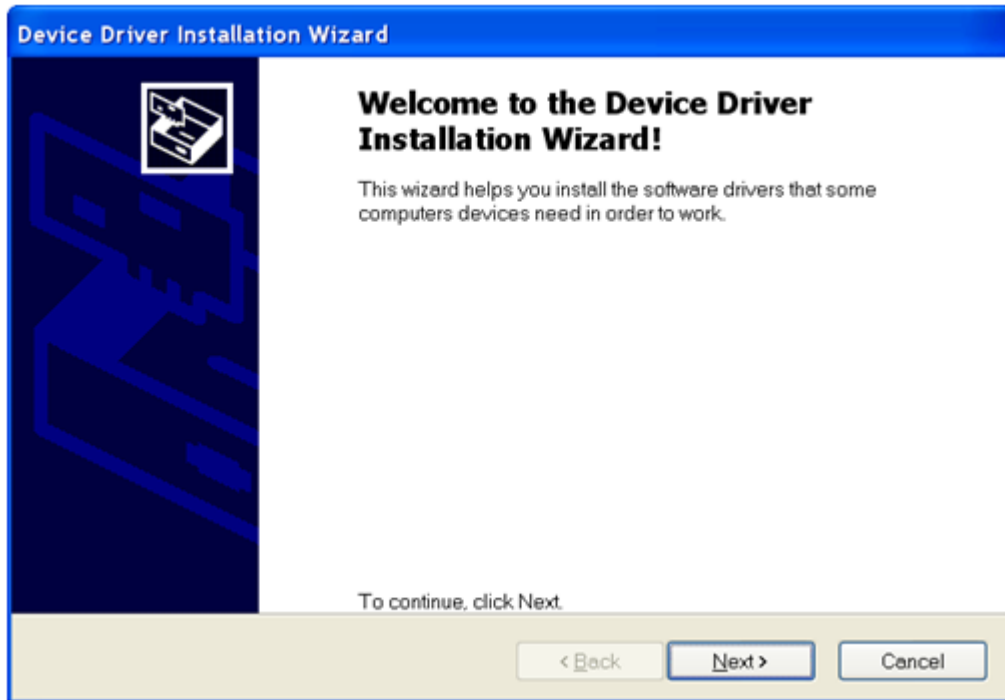
Figure3-6 Micro USB console cable



To connect to the PC through a micro USB console cable:

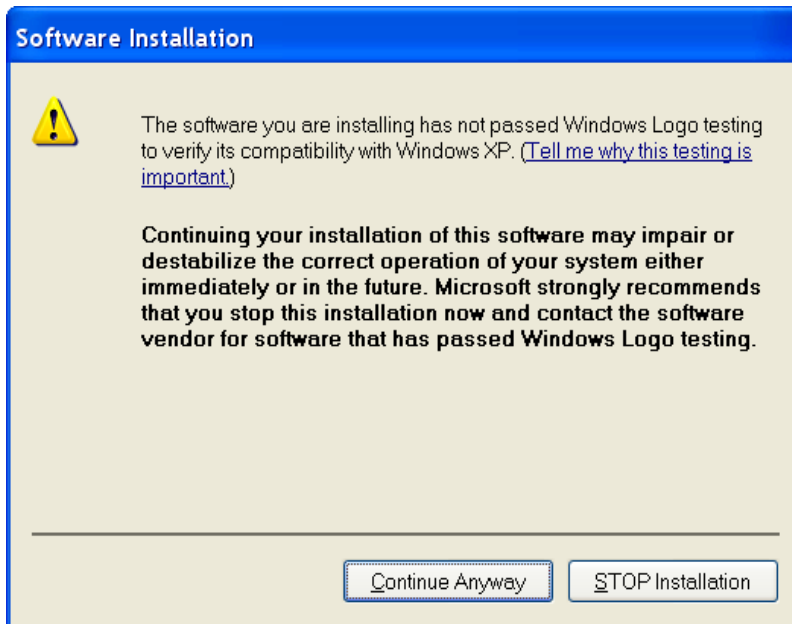
1. Connect the standard USB Type A connector to the USB port of the PC.
2. Connect the micro USB Type B connector to the micro USB console port of the switch.
3. Click the following link, or copy it to the address bar on the browser to log in to download and install the USB console driver on the configuration terminal.
http://www.h3c.com/en/home/USB_Console/
4. Select a driver program according to the operating system you use:
 - **XR21V1410_XR21B1411_Windows_Ver1840_x86_Installer.EXE**—32-bit operating system.
 - **XR21V1410_XR21B1411_Windows_Ver1840_x64_Installer.EXE**—64-bit operating system.
5. Click **Next** on the installation wizard.

Figure3-7 Device Driver Installation Wizard



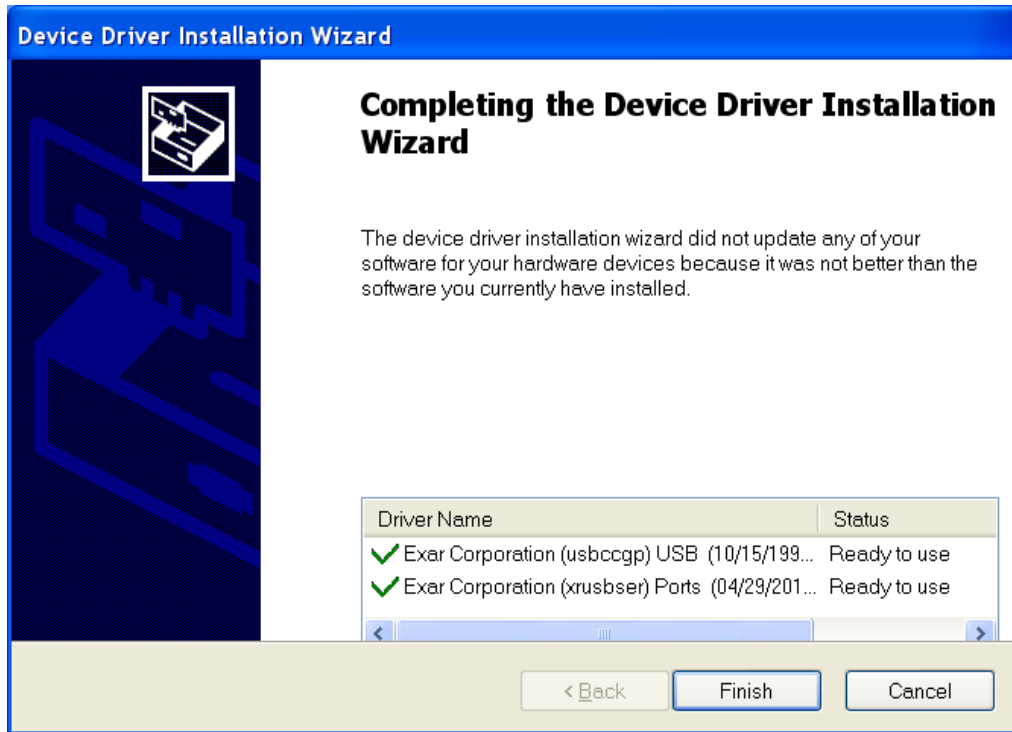
6. Click **Continue Anyway** if the following dialog box appears.

Figure3-8 Software Installation



7. Click **Finish**.

Figure3-9 Completing the device driver installation wizard



Setting terminal parameters

To configure and manage the switch through the console port, you must run a terminal emulator program, such as TeraTermPro, on your configuration terminal. You can use the emulator program to connect a network device, a Telnet site, or an SSH site. For more information about the terminal emulator programs, see the user guides for these programs.

Configure the terminal parameters as follows:

- **Bits per second**—9,600.
- **Data bits**—8.
- **Parity**—None.
- **Stop bits**—1.
- **Flow control**—None.

Starting the switch

Pre-start checklist

Before powering on the switch, verify the following items:

- Each fan tray slot is installed with a fan tray.
- The power cord is correctly connected.
- The input power voltage is as required by the switch.
- The console cable is correctly connected.
- The PC has started, and the terminal parameters have been correctly configured.

Powering on the switch

During the startup process, you can access Boot ROM menus to perform tasks such as software upgrade and file management. The Boot ROM interface and menu options differ with software versions. For more information about Boot ROM menu options, see the software-matching release notes for the device.

After the startup process is completed, you can access the CLI to configure the switch.

For more information about the configuration commands, see *H3C S6520X-EI & S6520X-HI Switch Series Configuration Guides* and *H3C S6520X-EI & S6520X-HI Switch Series Command References*.

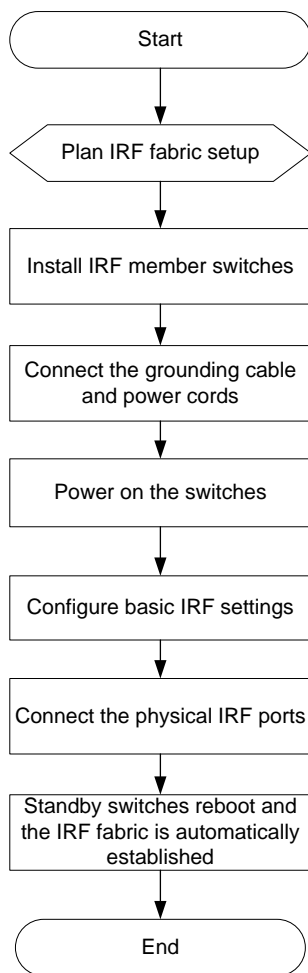
4 Setting up an IRF fabric

You can use H3C IRF technology to connect and virtualize S6520X-EI or S6520X-HI switches into a large virtual switch called an "IRF fabric" for flattened network topology, and high availability, scalability, and manageability.

An S6520X-EI or S6520X-HI switch can set up an IRF fabric only with switches from the same switch series.

IRF fabric setup flowchart

Figure4-1 IRF fabric setup flowchart



To set up an IRF fabric:

Step	Description
1. Plan IRF fabric setup	Plan the installation site and IRF fabric setup parameters: <ul style="list-style-type: none">• Planning IRF fabric size and the installation site• Identifying the master switch and planning IRF member IDs• Planning IRF topology and connections

Step	Description
	<ul style="list-style-type: none"> Identifying physical IRF ports on the member switches Planning the cabling scheme
2. Install IRF member switches	See "Installing the switch in a 19-inch rack" or "Mounting the switch on a workbench."
3. Connect grounding cables and power cords	See "Grounding the switch" and "Connecting the power cord."
4. Power on the switches	N/A
5. Configure basic IRF settings	See <i>H3C S6520X-EI & S6520X-HI Switch Series Virtual Technologies Configuration Guide</i> , depending on the software version.
6. Connect the physical IRF ports	Connect physical IRF ports on switches. All switches except the master switch automatically reboot, and the IRF fabric is established.

Planning IRF fabric setup

This section describes issues that an IRF fabric setup plan must cover.

Planning IRF fabric size and the installation site

Choose switch models and identify the number of required IRF member switches, depending on the user density and upstream bandwidth requirements. The switching capacity of an IRF fabric equals the total switching capacities of all member switches.

Plan the installation site depending on your network solution, as follows:

- Place all IRF member switches in one rack for centralized high-density access.
- Distribute the IRF member switches in different racks to implement the ToR access solution for a data center.

NOTE:

For the maximum IRF member devices supported by the switch, see the release notes that come with the switch.

Identifying the master switch and planning IRF member IDs

Determine which switch you want to use as the master for managing all member switches in the IRF fabric.

An IRF fabric has only one master switch. You configure and manage all member switches in the IRF fabric at the CLI of the master switch. IRF member switches automatically elect a master.

You can affect the election result by assigning a high member priority to the intended master switch. For more information about master election, see *H3C S6520X-EI & S6520X-HI Switch Series Virtual Technologies Configuration Guide*.

Prepare an IRF member ID assignment scheme. An IRF fabric uses member IDs to uniquely identify and manage its members, and you must assign each IRF member switch a unique member ID.

Planning IRF topology and connections

You can create an IRF fabric in daisy chain topology or more reliable ring topology. In ring topology, the failure of one IRF link does not cause the IRF fabric to split as in daisy chain topology. Instead, the IRF fabric changes to a daisy chain topology without interrupting network services.

You connect the IRF member switches through IRF ports, the logical interfaces for the connections between IRF member switches. Each IRF member switch has two IRF ports: IRF-port 1 and IRF-port 2. To use an IRF port, you must bind a minimum of one physical port to it.

When connecting two neighboring IRF member switches, you must connect the physical ports of IRF-port 1 on one switch to the physical ports of IRF-port 2 on the other switch.

The switch can provide 5G/10GE/25G/40GE/100GE IRF connections. See [Table4-1](#) for the available IRF physical ports. You can bind several IRF physical ports to an IRF port for increased bandwidth and availability.

[Figure4-2](#) and [Figure4-3](#) show the topologies of an IRF fabric made up of three S6520X-54QC-EI switches. The IRF port connections in the two figures are for illustration only, and more connection methods are available.

Figure4-2 IRF fabric in daisy chain topology

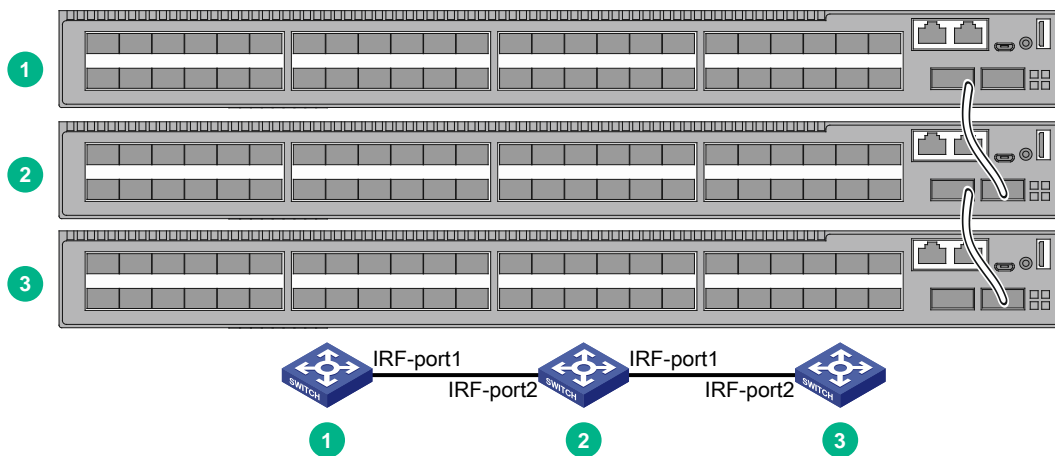
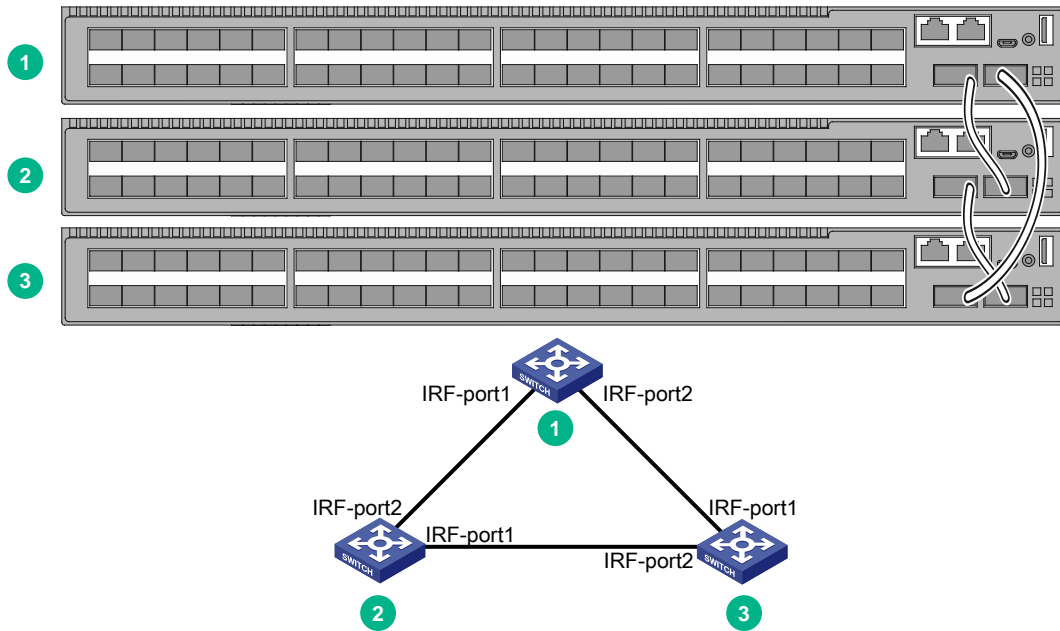


Figure4-3 IRF fabric in ring topology



Identifying physical IRF ports on the member switches

Identify the physical IRF ports on the member switches according to your topology and connection scheme.

Table4-1 shows the physical ports that can be used for IRF connection and the port use restrictions.

Table4-1 Candidate physical IRF ports and their use restrictions

Chassis	Candidate physical IRF ports	Use restrictions
S6520X-30QC-EI S6520X-30QC-HI	<ul style="list-style-type: none"> • 24 × SFP+ ports on the front panel • 2 × QSFP+ ports on the front panel • The following ports provided on the expansion cards: <ul style="list-style-type: none"> ○ 5G/2.5G/1000BASE-T autosensing Ethernet ports ○ 10G/5G/2.5G/1000BASE-T autosensing Ethernet ports ○ SFP+ ports ○ QSFP+ ports 	<ul style="list-style-type: none"> • Physical ports on interface modules and the front panel can be bound to the same IRF logical interface. • All physical ports to be bound to an IRF logical interface must have the same data rate. • A QSFP+ port that is split into four virtual SFP+ ports cannot be used as a physical IRF port. • A QSFP28 port that is split into four virtual SFP28 ports cannot be used as a physical IRF port.
S6520X-54QC-EI S6520X-54QC-HI	<ul style="list-style-type: none"> • 48 × SFP+ ports on the front panel • 2 × QSFP+ ports on the front panel • The following ports provided on the expansion cards: <ul style="list-style-type: none"> ○ 5G/2.5G/1000BASE-T autosensing Ethernet ports ○ 10G/5G/2.5G/1000BASE-T autosensing Ethernet ports ○ SFP+ ports ○ QSFP+ ports 	

Chassis	Candidate physical IRF ports	Use restrictions
S6520X-30HC-EI S6520X-30HC-HI	<ul style="list-style-type: none"> • 24 × SFP+ ports on the front panel • 2 × QSFP28 ports on the front panel • The following ports provided on the expansion cards: <ul style="list-style-type: none"> ○ 5G/2.5G/1000BASE-T autosensing Ethernet ports ○ 10G/5G/2.5G/1000BASE-T autosensing Ethernet ports ○ SFP+ ports ○ QSFP+ ports 	
S6520X-54HC-EI S6520X-54HC-HI	<ul style="list-style-type: none"> • 48 × SFP+ ports on the front panel • 2 × QSFP28 ports on the front panel • The following ports provided on the expansion cards: <ul style="list-style-type: none"> ○ 5G/2.5G/1000BASE-T autosensing Ethernet ports ○ 10G/5G/2.5G/1000BASE-T autosensing Ethernet ports ○ SFP+ ports ○ QSFP+ ports 	
S6520X-30HF-EI S6520X-30HF-HI	<ul style="list-style-type: none"> • 24 × SFP+ ports on the front panel • 6 × QSFP28 ports on the front panel 	<ul style="list-style-type: none"> • All physical ports to be bound to an IRF logical interface must have the same data rate. • An SFP+ port can be used as an IRF physical port only when it operates in 10 Gbps. • A QSFP28 port can be used as an IRF physical port only when it operates at 100 Gbps.
S6520X-54HF-EI S6520X-54HF-HI	<ul style="list-style-type: none"> • 48 × SFP+ ports on the front panel • 6 × QSFP28 ports on the front panel 	<ul style="list-style-type: none"> • All physical ports to be bound to an IRF logical interface must have the same data rate. • An SFP+ port can be used as an IRF physical port only when it operates in 10 Gbps. • A QSFP28 port can be used as a IRF physical port only when it operates at 100 Gbps.

Planning the cabling scheme

Use the following cables to connect the IRF physical ports on the switch :

- **5G/2.5G/1000BASE-T and 10G/5G/2.5G/1000BASE-T autosensing Ethernet ports**—For the available cables, see ports in *Hardware Information and Specifications*.
- **SFP+ ports**—SFP+ transceiver modules and optical fibers or SFP+ cables. For the available models, see ports in *Hardware Information and Specifications*.
- **QSFP+ ports**—QSFP+ transceiver modules and optical fibers or QSFP+ cables. For the available models, see ports in *Hardware Information and Specifications*.
- **SFP28 ports**—SFP28 transceiver modules and optical fibers or SFP28 cables. For the available models, see ports in *Hardware Information and Specifications*.

- **QSFP28 ports**—QSFP28 transceiver modules and optical fibers or QSFP28 cables. For the available models, see ports in *Hardware Information and Specifications*.

For a short-distance IRF connection in an equipment room, use a twisted pair/SFP+/QSFP+/SFP28/QSFP28 cable.

For a long-distance IRF connection, use SFP+/QSFP+/SFP28/QSFP28 transceiver modules and optical fibers.

The following subsections describe several H3C recommended IRF connection schemes by using SFP+ cables and SFP+ transceiver modules and fibers. All these schemes use a ring topology.

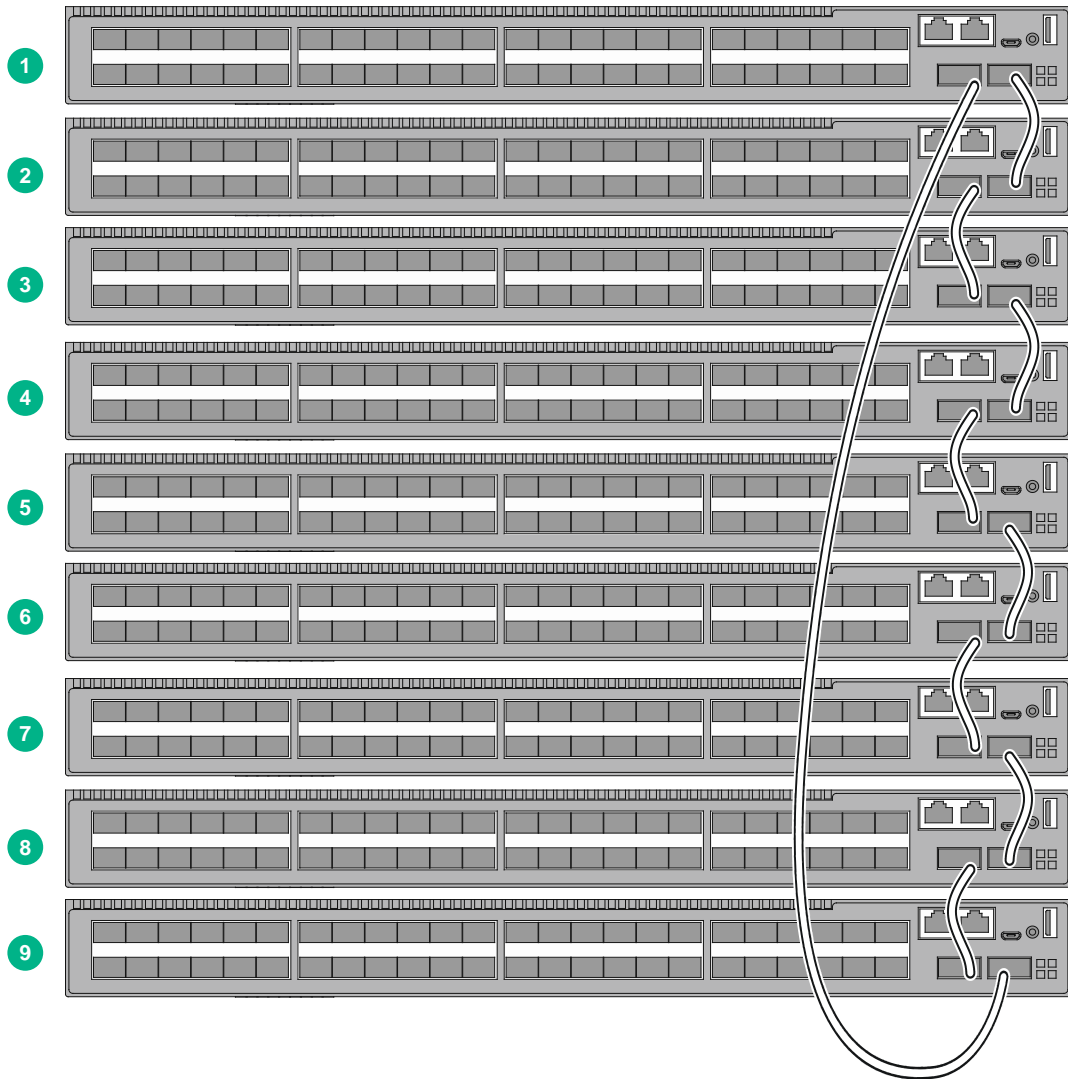
! IMPORTANT:

In these schemes, all physical IRF ports are located on the same side. If physical IRF ports are on different sides, you must measure the distance between them to select an appropriate cable.

Connecting the IRF member switches in one rack

Connect the IRF member switches (9 switches in this example) in a rack as shown in [Figure4-4](#). The switches in the ring topology (see [Figure4-5](#)) are in the same order as connected in the rack.

Figure4-4 Connecting the switches in one rack



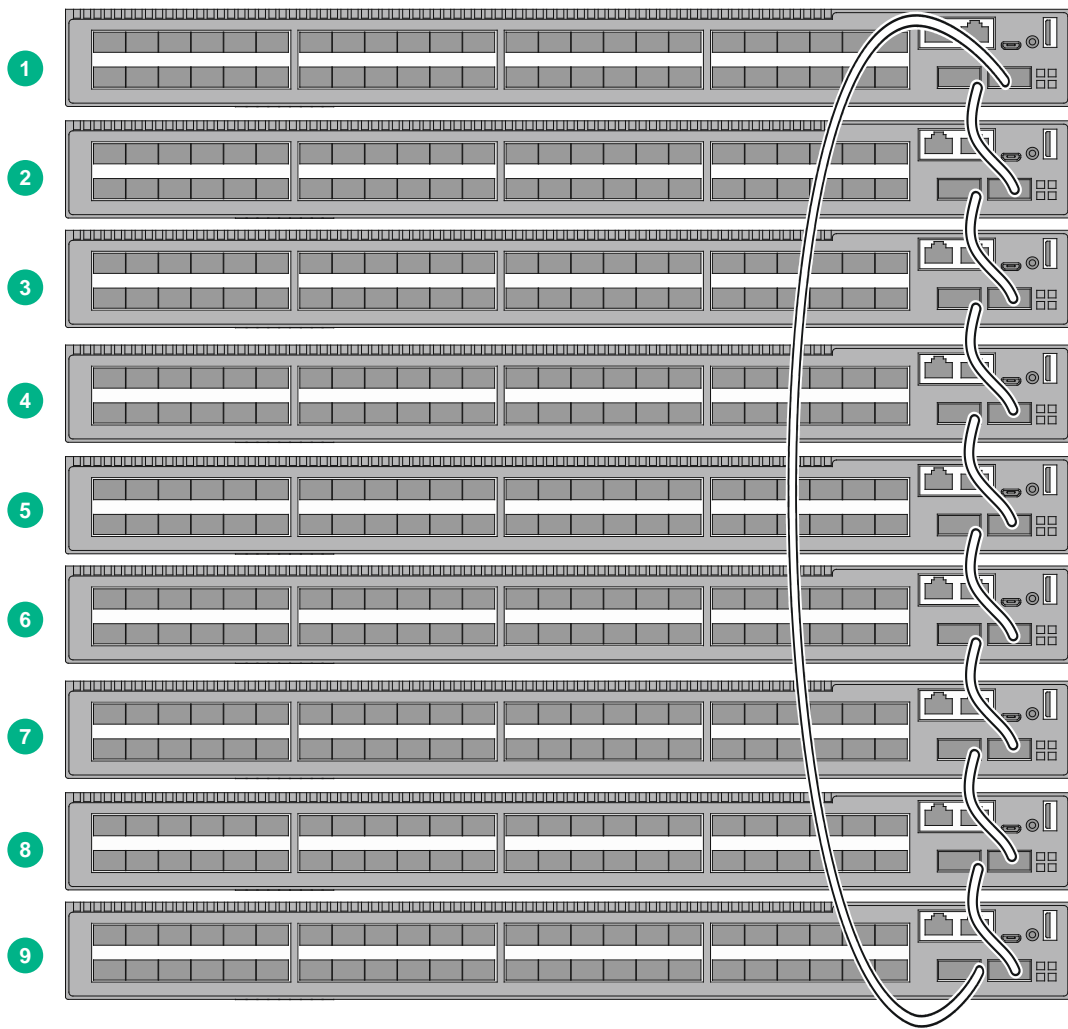
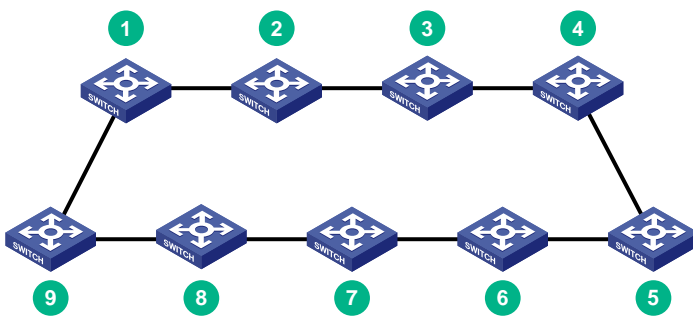


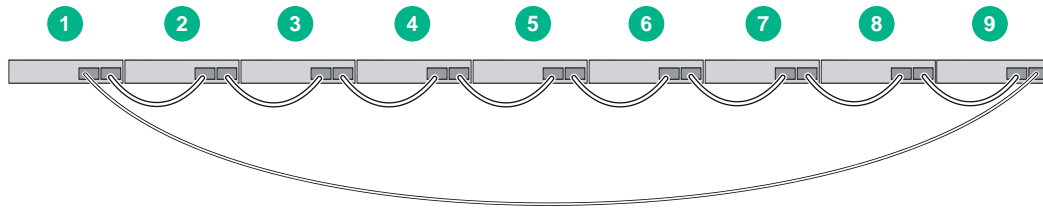
Figure4-5 IRF fabric topology



Connecting the IRF member switches in a ToR solution

You can install IRF member switches in different racks side by side to deploy a top of rack (ToR) solution.

Figure4-6 ToR cabling



Configuring basic IRF settings

After you install the IRF member switches, power on the switches, and log in to each IRF member switch (see *H3C S6520X-EI & S6520X-HI Switch Series Fundamentals Configuration Guide*) to configure their member IDs, member priorities, and IRF port bindings.

Follow these guidelines when you configure the switches:

- Assign the master switch higher member priority than any other switch.
- Bind physical ports to IRF port 1 on one switch and to IRF port 2 on the other switch. You perform IRF port binding before or after connecting IRF physical ports depending on the software release.
- To bind the ports on an interface module to an IRF port, you must install the interface module first.
- Execute the **display irf configuration** command to verify the basic IRF settings.

For more information about configuring basic IRF settings, see *H3C S6520X-EI & S6520X-HI Switch Series Virtual Technologies Configuration Guide*.

Connecting the physical IRF ports

Use twisted pair/SFP+/QSFP+/SFP28/QSFP28 cables or SFP+/QSFP+/SFP28/QSFP28 transceiver modules and fibers to connect the IRF member switches as planned.

Wear an ESD wrist strap when you connect twisted pair/SFP+/QSFP+/SFP28/QSFP28 cables or SFP+/QSFP+/SFP28/QSFP28 transceiver modules and fibers. For how to connect them, see *H3C Transceiver Modules and Network Cables Installation Guide*.

Verifying the IRF fabric setup

To verify the basic functionality of the IRF fabric after you finish configuring basic IRF settings and connecting IRF ports:

1. Log in to the IRF fabric through the console port of any member switch.
2. Create a Layer 3 interface, assign it an IP address, and make sure the IRF fabric and the remote network management station can reach each other.
3. Use Telnet, web, or SNMP to access the IRF fabric from the network management station. (See *H3C S6520X-EI & S6520X-HI Switch Series Fundamentals Configuration Guide*.)
4. Verify that you can manage all member switches as if they were one node.
5. Display the running status of the IRF fabric by using the commands in [Table4-2](#).

Table4-2 Displaying and maintaining IRF configuration and running status

Task	Command
Display information about the IRF fabric.	<code>display irf</code>
Display all members' IRF configurations that take effect at a reboot.	<code>display irf configuration</code>
Display IRF fabric topology information.	<code>display irf topology</code>

NOTE:

To avoid IP address collision and network problems, configure a minimum of one multi-active detection (MAD) mechanism to detect the presence of multiple identical IRF fabrics and handle collisions. For more information about MAD detection, see *H3C S6520X-EI & S6520X-HI Switch Series Virtual Technologies Configuration Guide*.

5 Maintenance and troubleshooting

Power supply failure

The S6520X-30QC-EI, S6520X-54QC-EI, S6520X-30HC-EI, S6520X-54HC-EI, S6520X-30QC-HI, S6520X-54QC-HI, S6520X-30HC-HI, and S6520X-54HC-HI switches support PSR250-12A, PSR250-12A1, and PSR450-12D power supplies. These switches each provide two power supply status LEDs PWR1 and PWR2, and the PSR250-12A, PSR250-12A1, and PSR450-12D power supplies each provide a status LED. You can observe the power supply status LEDs on the switch in combination with the status LEDs on the power supplies to identify power supply failure.

The S6520X-30HF-EI, S6520X-54HF-EI, S6520X-30HF-HI, and S6520X-54HF-HI switch support PSR180-12A-F and PSR180-12A-B power supplies. The PSR180-12A-F and PSR180-12A-B power supplies do not have LEDs. You can observe the status LED on the switch to identify power supply failure.

For information about the LEDs, see *S6520X-EI & S6520X-HI Switch Series Hardware Information and Specifications*.

Symptom

- S6520X-30QC-EI, S6520X-54QC-EI, S6520X-30HC-EI, S6520X-54HC-EI, S6520X-30QC-HI, S6520X-54QC-HI, S6520X-30HC-HI, and S6520X-54HC-HI switches
The status LED on a power supply in combination with the power supply status LED on the switch indicates that the power supply has failed.
- S6520X-30HF-EI, S6520X-54HF-EI, S6520X-30HF-HI, and S6520X-54HF-HI switches
The status LED on the switch indicates a power supply failure.

Solution

To resolve the issue:

1. Verify that the power cord is correctly connected.
2. Verify that the power source meets the requirement.
3. Verify that the operating temperature of the switch is in an acceptable range and the power supply has good ventilation.
4. If the issue persists, contact H3C Support.

To replace a power supply, see "[Installing and removing a power supply](#)."

Fan tray failure

WARNING!

- If both fan trays fail during switch operation, replace them within 2 minutes.
 - If one fan tray fails, perform either of the following tasks:
 - If the ambient temperature is not higher than 27°C (80.6°F), replace the fan tray within 24 hours and make sure the failed fan tray remains in position before the replacement.
 - If the ambient temperature is higher than 27°C (80.6°F), replace the fan tray immediately.
-

The switch uses removable fan trays. If a fan tray fails, see "[Installing and removing a fan tray](#)" to replace the fan tray.

Configuration terminal display issues

If the configuration environment setup is correct, the configuration terminal displays booting information when the switch is powered on. If the setup is incorrect, the configuration terminal displays nothing or garbled text.

No display

Symptom

The configuration terminal does not have display when the switch is powered on.

Solution

To resolve the issue:

1. Verify that the power supply is supplying power to the switch correctly.
2. Verify that the console cable is correctly connected.
3. Verify that the console cable does not have any issues and the terminal settings are correct.
4. If the issue persists, contact H3C Support.

Garbled display

Symptom

The display on the configuration terminal is garbled.

Solution

To resolve the issue:

1. Verify that the following settings are configured for the terminal:
 - **Baud rate**—9,600.
 - **Data bits**—8.
 - **Stop bits**—1.
 - **Parity**—None.
 - **Flow control**—None.
2. If the issue persists, contact H3C Support.

1 Product models and technical specifications

Product models

H3C S6520X-EI switch series includes the following models:

- S6520X-30QC-EI
- S6520X-54QC-EI
- S6520X-30HC-EI
- S6520X-54HC-EI
- S6520X-30HF-EI
- S6520X-54HF-EI

H3C S6520X-HI switch series includes the following models:

- S6520X-30QC-HI
- S6520X-54QC-HI
- S6520X-30HC-HI
- S6520X-54HC-HI
- S6520X-30HF-HI
- S6520X-54HF-HI

Technical specifications

Table1-1 Technical specifications (1)

Item	S6520X-30QC-EI	S6520X-54QC-EI	S6520X-30HC-EI	S6520X-54HC-EI
	S6520X-30QC-HI	S6520X-54QC-HI	S6520X-30HC-HI	S6520X-54HC-HI
Dimensions (H x W x D)	43.6 x 440 x 360 mm (1.72 x 17.32 x 14.17 in)	43.6 x 440 x 360 mm (1.72 x 17.32 x 14.17 in)	43.6 x 440 x 360 mm (1.72 x 17.32 x 14.17 in)	43.6 x 440 x 360 mm (1.72 x 17.32 x 14.17 in)
Weight	≤ 7.0 kg (15.43 lb)	≤ 7.2 kg (15.87 lb)	≤ 7.4 kg (16.31 lb)	≤ 7.6 kg (16.75 lb)
Console port	<ul style="list-style-type: none"> • 1 x micro USB console port • 1 x serial console port Only the micro USB console port is available when you connect both ports.			
USB port	1	1	1	1
Management Ethernet port	1	1	1	1
QSFP+ port	2	2	N/A	N/A
SFP+ port	24	48	24	48
QSFP28 port	N/A	N/A	2	2
Expansion	2, on the rear panel	2, on the rear panel	2, on the rear panel	2, on the rear panel

Item	S6520X-30QC-EI S6520X-30QC-HI	S6520X-54QC-EI S6520X-54QC-HI	S6520X-30HC-EI S6520X-30HC-HI	S6520X-54HC-EI S6520X-54HC-HI
slot				
Power supply slot	2, on the rear panel	2, on the rear panel	2, on the rear panel	2, on the rear panel
Fan tray slot	2, on the rear panel	2, on the rear panel	2, on the rear panel	2, on the rear panel
Input voltage	<ul style="list-style-type: none"> AC input for the PSR250-12A/PSR250-12A1 power supply: <ul style="list-style-type: none"> Rated voltage range: 100 to 240 VAC @ 50/60 Hz Max voltage range: 90 to 264 VAC @ 47 to 63 Hz High-voltage DC input for the PSR250-12A/PSR250-12A1 power supply: <ul style="list-style-type: none"> Rated voltage range: 240 VDC Max voltage range: 180 to 320 VDC PSR450-12D power supply: <ul style="list-style-type: none"> Rated voltage range: –48 to –60 VDC Max voltage range: –36 to –72 VDC 			
Minimum power consumption	<ul style="list-style-type: none"> 38 W with one PSR250-12A/P SR250-12A1 43 W with two PSR250-12A/P SR250-12A1 40 W with one PSR450-12D 45 W with two PSR450-12D 	<ul style="list-style-type: none"> 39 W with one PSR250-12A/P SR250-12A1 44 W with two PSR250-12A/P SR250-12A1 41 W with one PSR450-12D 46 W with two PSR450-12D 	<ul style="list-style-type: none"> 38 W with one PSR250-12A/P SR250-12A1 43 W with two PSR250-12A/P SR250-12A1 40 W with one PSR450-12D 45 W with two PSR450-12D 	<ul style="list-style-type: none"> 44 W with one PSR250-12A/P SR250-12A1 49 W with two PSR250-12A/P SR250-12A1 46 W with one PSR450-12D 51 W with two PSR450-12D
Maximum power consumption	<ul style="list-style-type: none"> 179 W with one PSR250-12A/P SR250-12A1 183 W with two PSR250-12A/P SR250-12A1 181 W with one PSR450-12D 185 W with two PSR450-12D 	<ul style="list-style-type: none"> 231 W with one PSR250-12A/P SR250-12A1 234 W with two PSR250-12A/P SR250-12A1 233 W with one PSR450-12D 236 W with two PSR450-12D 	<ul style="list-style-type: none"> 197 W with one PSR250-12A/P SR250-12A1 200 W with two PSR250-12A/P SR250-12A1 199 W with one PSR450-12D 202 W with two PSR450-12D 	<ul style="list-style-type: none"> 249 W with one PSR250-12A/P SR250-12A1 251 W with two PSR250-12A/P SR250-12A1 251 W with one PSR450-12D 253 W with two PSR450-12D
Melting current of power supply fuse	<ul style="list-style-type: none"> PSR250-12A/PSR250-12A1: <ul style="list-style-type: none"> AC input: 6.3 A/250 VAC High-voltage DC input: 6.3 A/250 VDC PSR450-12D: 20 A/125 V 			
Operating temperature	–5°C to +45°C (23°F to 113°F)			
Humidity	5% RH to 95% RH, noncondensing			
Security compliance	UL 60950-1/EN 60950-1/IEC 60950-1/GB4943.1			

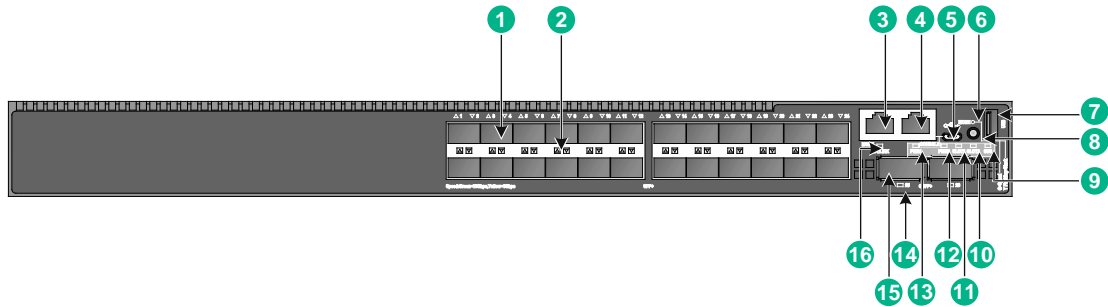
Table1-2 Technical specifications (2)

Item	S6520X-30HF-EI	S6520X-54HF-EI	S6520X-30HF-HI	S6520X-54HF-HI
Dimensions (H x W x D)	44 x 440 x 360 mm (1.73 x 17.32 x 14.17 in)	44 x 440 x 360 mm (1.73 x 17.32 x 14.17 in)	44 x 440 x 360 mm (1.73 x 17.32 x 14.17 in)	44 x 440 x 360 mm (1.73 x 17.32 x 14.17 in)
Weight	≤ 5.5 kg (12.13 lb)	≤ 6.0 kg (13.23 lb)	≤ 6.0 kg (13.23 lb)	≤ 6.5 kg (14.33 lb)
Console port	1 x serial console port			
Management Ethernet port	1	1	1	1
USB port	1	1	1	1
SFP+ port	24	48	24	48
QSFP28 port	6	6	6	6
Fan tray slot	3	3	3	3
Power supply slot	2	2	2	2
Input voltage	AC input for the PSR180-12A-F/PSR180-12A-B power supply: <ul style="list-style-type: none"> Rated voltage range: 100 to 240 VAC @ 50/60 Hz Max voltage range: 90 to 264 VAC @ 47 to 63 Hz 			
Minimum power consumption	<ul style="list-style-type: none"> 29 W with one PSR180-12A-F /PSR180-12A-B 35 W with two PSR180-12A-F /PSR180-12A-B 	<ul style="list-style-type: none"> 29 W with one PSR180-12A-F /PSR180-12A-B 36 W with two PSR180-12A-F /PSR180-12A-B 	<ul style="list-style-type: none"> 38 W with one PSR180-12A-F /PSR180-12A-B 46 W with two PSR180-12A-F /PSR180-12A-B 	<ul style="list-style-type: none"> 36 W with one PSR180-12A-F /PSR180-12A-B 44 W with two PSR180-12A-F /PSR180-12A-B
Maximum power consumption	<ul style="list-style-type: none"> 131 W with one PSR180-12A-F /PSR180-12A-B 134 W with two PSR180-12A-F /PSR180-12A-B 	<ul style="list-style-type: none"> 162 W with one PSR180-12A-F /PSR180-12A-B 163 W with two PSR180-12A-F /PSR180-12A-B 	<ul style="list-style-type: none"> 143 W with one PSR180-12A-F /PSR180-12A-B 145 W with two PSR180-12A-F /PSR180-12A-B 	<ul style="list-style-type: none"> 176 W with one PSR180-12A-F /PSR180-12A-B 177 W with two PSR180-12A-F /PSR180-12A-B
Melting current of power supply fuse	6.3 A @ 250 VAC			
Operating temperature	-5°C to +45°C (23°F to 113°F)			
Humidity	5% RH to 95% RH, noncondensing			
Safety specification compliance	UL 62368-1/EN 62368-1/IEC 62368-1/UL 60950-1/EN 60950-1/IEC 60950-1/GB4943.1			

2 Chassis views

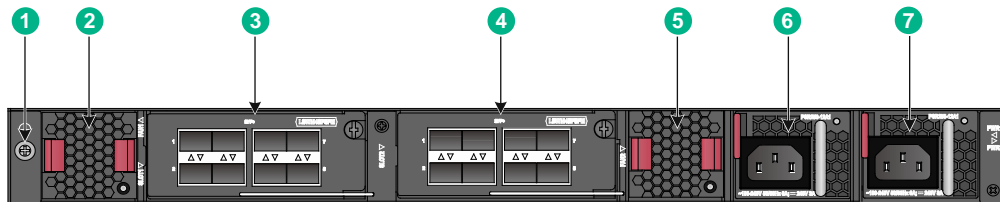
S6520X-30QC-EI & S6520X-30QC-HI

Figure2-1 Front panel



(1) SFP+ port	(2) SFP+ port LED
(3) Management Ethernet port	(4) Console port (CONSOLE)
(5) Micro USB console port	(6) Mode LED (MODE)
(7) USB port	(8) Mode button
(9) System status LED (SYS)	(10) Expansion card 2 status LED (SLOT2)
(11) Expansion card 1 status LED (SLOT1)	(12) Power supply 2 status LED (PWR2)
(13) Power supply 1 status LED (PWR1)	(14) QSFP+ port LED
(15) QSFP+ port	(16) Management Ethernet port LED (ACT/LINK)

Figure2-2 Rear panel



(1) Grounding screw	(2) Fan tray 1 (FAN1)
(3) Expansion card 1 (SLOT1)	(4) Expansion card 2 (SLOT2)
(5) Fan tray 2 (FAN2)	(6) Power supply 1 (PWR1)
(7) Power supply 2 (PWR2)	

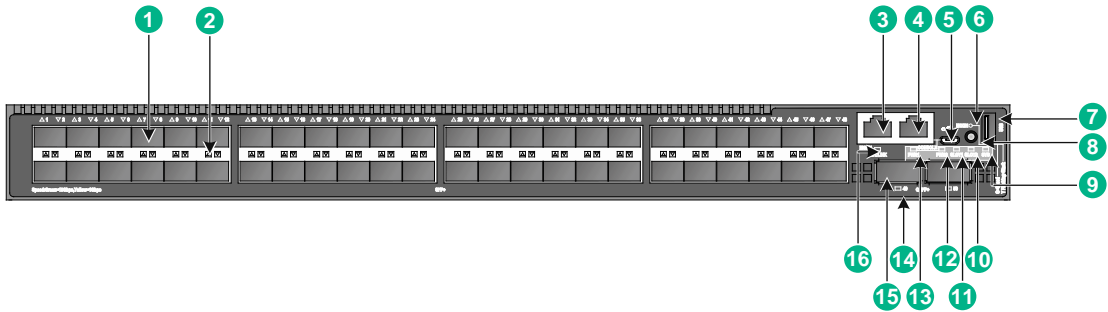
The S6520X-30QC-EI and S6520X-30QC-HI switches come with power supply slot PWR1 empty and power supply slot PWR2 installed with a filler panel. You can install one or two power supplies for the switch as required. In [Figure2-2](#), two PSR250-12A1 power supplies are installed in the power supply slots.

The S6520X-30QC-EI and S6520X-30QC-HI switches come with the two fan tray slots empty. You must install two fan trays of the same model for the switch. In [Figure2-2](#), two LSWM1FANSCBE fan trays are installed in the fan tray slots.

The S6520X-30QC-EI and S6520X-30QC-HI switches come with a filler panel in each expansion slot. You can select expansion cards for the switch as required. In [Figure2-2](#), two LSWM4SP8PM interface modules are installed in the expansion slots.

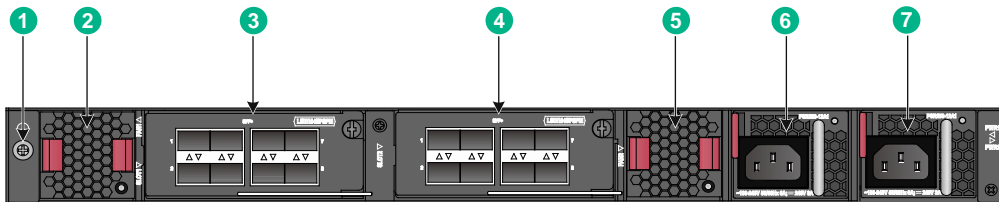
S6520X-54QC-EI & S6520X-54QC-HI

Figure2-3 Front panel



(1) SFP+ port	(2) SFP+ port LED
(3) Management Ethernet port	(4) Console port (CONSOLE)
(5) Micro USB console port	(6) Mode LED (MODE)
(7) USB port	(8) Mode button
(9) System status LED (SYS)	(10) Expansion card 2 status LED (SLOT2)
(11) Expansion card 1 status LED (SLOT1)	(12) Power supply 2 status LED (PWR2)
(13) Power supply 1 status LED (PWR1)	(14) QSFP+ port LED
(15) QSFP+ port	(16) Management Ethernet port LED (ACT/LINK)

Figure2-4 Rear panel



(1) Grounding screw	(2) Fan tray 1 (FAN1)
(3) Expansion card 1 (SLOT1)	(4) Expansion card 2 (SLOT2)
(5) Fan tray 2 (FAN2)	(6) Power supply 1 (PWR1)
(7) Power supply 2 (PWR2)	

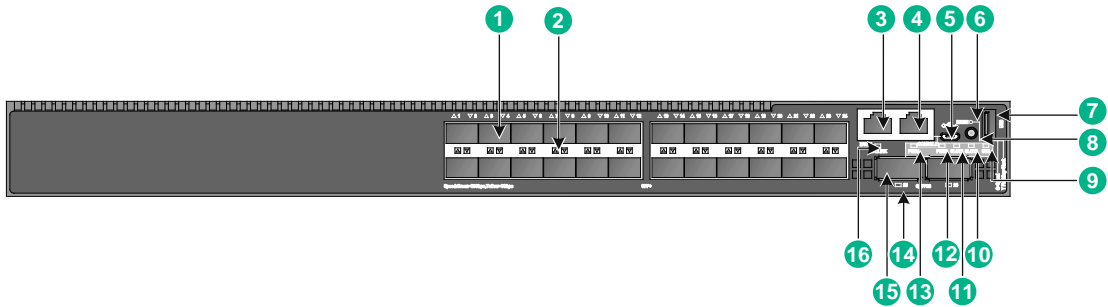
The S6520X-54QC-EI and S6520X-54QC-HI switches come with power supply slot PWR1 empty and power supply slot PWR2 installed with a filler panel. You can install one or two power supplies for the switch as required. In [Figure2-4](#), two PSR250-12A1 power supplies are installed in the power supply slots.

The S6520X-54QC-EI and S6520X-54QC-HI switches come with the two fan tray slots empty. You must install two fan trays of the same model for the switch. In [Figure2-4](#), two LSWM1FANSCBE fan trays are installed in the fan tray slots.

The S6520X-54QC-EI and S6520X-54QC-HI switches come with a filler panel in each expansion slot. You can select expansion cards for the switch as required. In [Figure2-4](#), two LSWM4SP8PM interface modules are installed in the expansion slots.

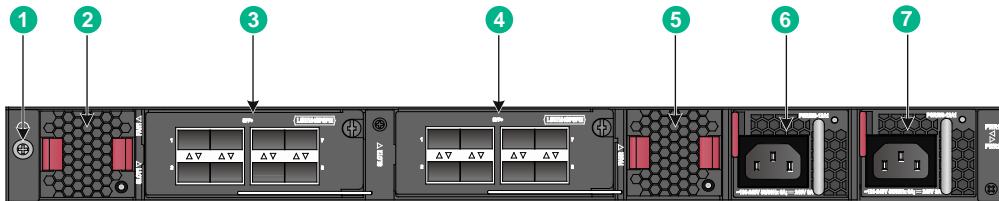
S6520X-30HC-EI & S6520X-30HC-HI

Figure2-5 Front panel



(1) SFP+ port	(2) SFP+ port LED
(3) Management Ethernet port	(4) Console port (CONSOLE)
(5) Micro USB console port	(6) Mode LED (MODE)
(7) USB port	(8) Mode button
(9) System status LED (SYS)	(10) Expansion card 2 status LED (SLOT2)
(11) Expansion card 1 status LED (SLOT1)	(12) Power supply 2 status LED (PWR2)
(13) Power supply 1 status LED (PWR1)	(14) QSFP28 port LED
(15) QSFP28 port	(16) Management Ethernet port LED (ACT/LINK)

Figure2-6 Rear panel



(1) Grounding screw	(2) Fan tray 1 (FAN1)
(3) Expansion card 1 (SLOT1)	(4) Expansion card 2 (SLOT2)
(5) Fan tray 2 (FAN2)	(6) Power supply 1 (PWR1)
(7) Power supply 2 (PWR2)	

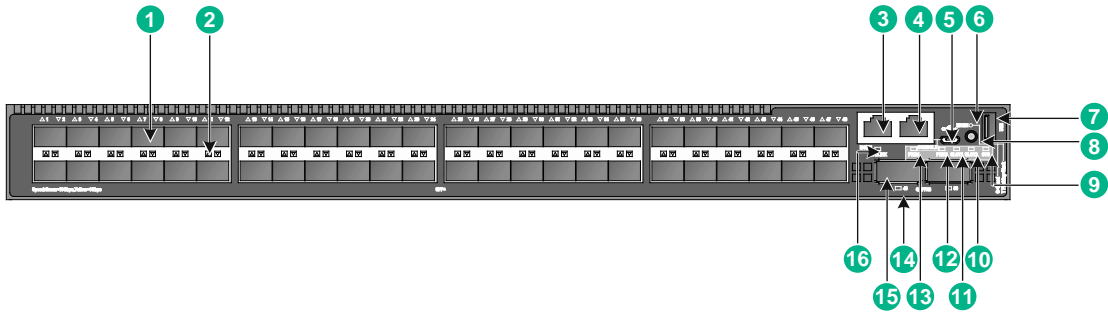
The S6520X-30HC-EI and S6520X-30HC-HI switches come with power supply slot PWR1 empty and power supply slot PWR2 installed with a filler panel. You can install one or two power supplies for the switch as required. In [Figure2-6](#), two PSR250-12A1 power supplies are installed in the power supply slots.

The S6520X-30HC-EI & S6520X-30HC-HI switches come with the two fan tray slots empty. You must install two fan trays of the same model for the switch. In [Figure2-6](#), two LSWM1FANSCBE fan trays are installed in the fan tray slots.

The S6520X-30HC-EI & S6520X-30HC-HI switches come with a filler panel in each expansion slot. You can select expansion cards for the switch as required. In [Figure2-6](#), two LSWM4SP8PM interface modules are installed in the expansion slots.

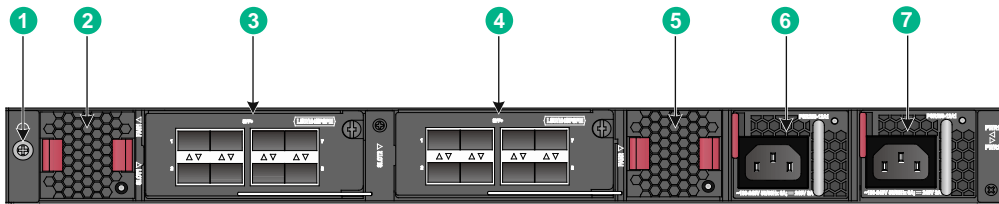
S6520X-54HC-EI & S6520X-54HC-HI

Figure2-7 Front panel



(1) SFP+ port	(2) SFP+ port LED
(3) Management Ethernet port	(4) Console port (CONSOLE)
(5) Micro USB console port	(6) Mode LED (MODE)
(7) USB port	(8) Mode button
(9) System status LED (SYS)	(10) Expansion card 2 status LED (SLOT2)
(11) Expansion card 1 status LED (SLOT1)	(12) Power supply 2 status LED (PWR2)
(13) Power supply 1 status LED (PWR1)	(14) QSFP28 port LED
(15) QSFP28 port	(16) Management Ethernet port LED (ACT/LINK)

Figure2-8 Rear panel



(1) Grounding screw	(2) Fan tray 1 (FAN1)
(3) Expansion card 1 (SLOT1)	(4) Expansion card 2 (SLOT2)
(5) Fan tray 2 (FAN2)	(6) Power supply 1 (PWR1)
(7) Power supply 2 (PWR2)	

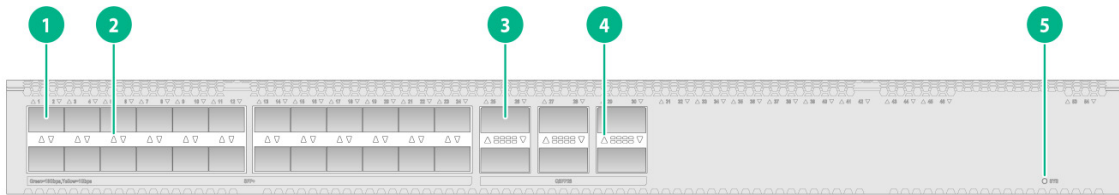
The S6520X-54HC-EI and S6520X-54HC-HI switches come with power supply slot PWR1 empty and power supply slot PWR2 installed with a filler panel. You can install one or two power supplies for the switch as required. In [Figure2-8](#), two PSR250-12A1 power supplies are installed in the power supply slots.

The S6520X-54HC-EI and S6520X-54HC-HI switches come with the two fan tray slots empty. You must install two fan trays of the same model for the switch. In [Figure2-4](#), two LSWM1FANSCBE fan trays are installed in the fan tray slots.

The S6520X-54HC-EI and S6520X-54HC-HI switches come with a filler panel in each expansion slot. You can select expansion cards for the switch as required. In [Figure2-4](#), two LSWM4SP8PM interface modules are installed in the expansion slots.

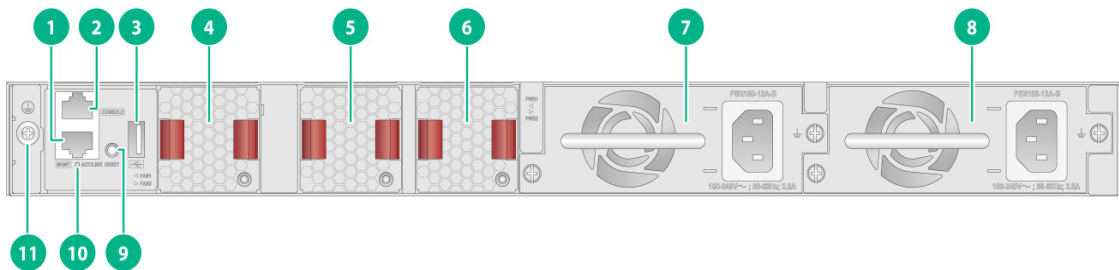
S6520X-30HF-EI & S6520X-30HF-HI

Figure2-9 Front panel



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

Figure2-10 Rear panel



- | | |
|------------------------------|--|
| (1) Management Ethernet port | (2) Console port (CONSOLE) |
| (3) USB port | (4) Fan tray 1 (FAN1) |
| (5) Fan tray 2 (FAN2) | (6) Fan tray 3 (FAN3) |
| (7) Power supply 1 (PWR1) | (8) Power supply 2 (PWR2) |
| (9) Reset button (RESET) | (10) Management Ethernet port LED (ACT/LINK) |
| (11) Grounding screw | |

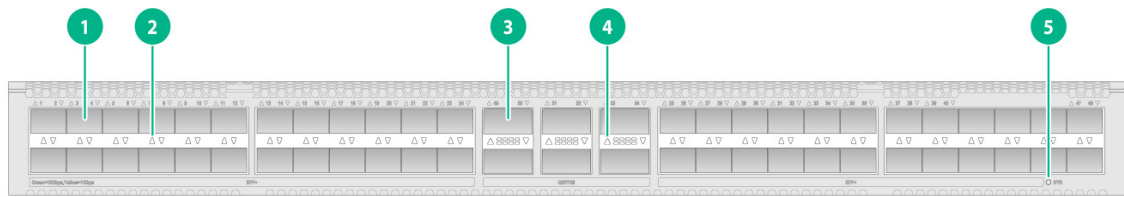
The S6520X-30HF-EI and S6520X-30HF-HI switches come with power supply slot PWR1 empty and power supply slot PWR2 installed with a filler panel. You can install one or two power supplies for the switch as required. In [Figure2-10](#), two PSR180-12A-B power supplies are installed in the power supply slots.

The S6520X-30HF-EI and S6520X-30HF-HI switches come with the three fan tray slots empty. You must install three fan trays of the same model for the switch. In [Figure2-10](#), three LSPM1FANSB-SN fan trays are installed in the fan tray slots.

The S6520X-30HF-EI and S6520X-30HF-HI switches come with a reset button RESET. You can press the button to reboot the device.

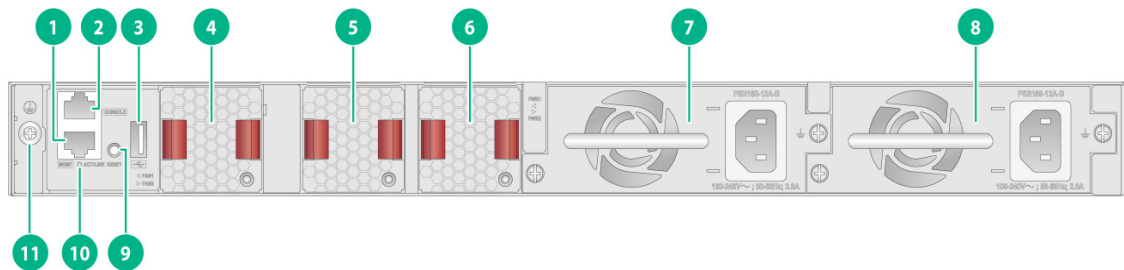
S6520X-54HF-EI & S6520X-54HF-HI

Figure2-11 Front panel



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

Figure2-12 Rear panel



- | | |
|------------------------------|--|
| (1) Management Ethernet port | (2) Console port (CONSOLE) |
| (3) USB port | (4) Fan tray 1 (FAN1) |
| (5) Fan tray 2 (FAN2) | (6) Fan tray 3 (FAN3) |
| (7) Power supply 1 (PWR1) | (8) Power supply 2 (PWR2) |
| (9) Reset button (RESET) | (10) Management Ethernet port LED (ACT/LINK) |
| (11) Grounding screw | |

The S6520X-54HF-EI and S6520X-54HF-HI switches come with power supply slot PWR1 empty and power supply slot PWR2 installed with a filler panel. You can install one or two power supplies for the switch as required. In [Figure2-12](#), two PSR180-12A-B power supplies are installed in the power supply slots.

The S6520X-54HF-EI and S6520X-54HF-HI switches come with the three fan tray slots empty. You must install three fan trays of the same model for the switch. In [Figure2-12](#), three LSPM1FANSB-SN fan trays are installed in the fan tray slots.

The S6520X-54HF-EI and S6520X-54HF-HI switches come with a reset button (RESET). You can press the button to reboot the device.

3 Removable components and compatibility matrixes

Table3-1 Compatibility matrix between switches and removable components

FRU model	S6520X-30QC-EI S6520X-30QC-HI S6520X-54QC-EI S6520X-54QC-HI	S6520X-30HC-EI S6520X-30HC-HI S6520X-54HC-EI S6520X-54HC-HI	S6520X-30HF-EI S6520X-54HF-EI S6520X-30HF-HI S6520X-54HF-HI
Removable power supplies			
PSR250-12 A	Supported	Supported	Not supported
PSR250-12 A1	Supported	Supported	Not supported
PSR450-12 D	Supported	Supported	Not supported
PSR180-12 A-F	Not supported	Not supported	Supported
PSR180-12 A-B	Not supported	Not supported	Supported
Removable fan trays			
LSWM1FAN SCE	Supported	Supported	Not supported
LSWM1FAN SCBE	Supported	Supported	Not supported
LSPM1FAN SA-SN	Not supported	Not supported	Supported
LSPM1FAN SB-SN	Not supported	Not supported	Supported
Expansion cards			
LSWM2QP2 P	Supported	Supported	Not supported
LSWM2SP8 P	Supported	Supported	Not supported
LSWM4SP8 PM	Supported	Supported	Not supported
LSWM2ZQP 2P	Not supported	Supported	Not supported
LSWM2ZSP 8P	Not supported	Supported	Not supported
LSPM6FWD	Supported	Supported	Not supported
LSPM6FWD	Supported	Supported	Not supported

FRU model	S6520X-30QC-EI S6520X-30QC-HI S6520X-54QC-EI S6520X-54QC-HI	S6520X-30HC-EI S6520X-30HC-HI S6520X-54HC-EI S6520X-54HC-HI	S6520X-30HF-EI S6520X-54HF-EI S6520X-30HF-HI S6520X-54HF-HI
8			
LSWM2XM GT8P	Supported	Supported	Not supported
LSWM2MG T8P	Supported	Supported	Not supported
LSWM2ZSP 2P	Supported	Supported	Not supported
LSWM2SP2 PB	Supported	Supported	Not supported
LSWM2SP4 PB	Supported	Supported	Not supported

Removable power supplies

The switch uses removable power supplies and supports the PSR250-12A, PSR250-12A1, PSR450-12D, PSR180-12A-F, and PSR180-12A-B power supplies.

You can install one power supply, or two power supplies in 1+1 redundancy for the switch.

Table3-2 Power supplies available for the switch

Power supply model	AC or DC input	Specifications	Reference
PSR250-12A PSR250-12A1	AC input	<ul style="list-style-type: none"> Rated input voltage range: 100 to 240 VAC @ 50/60 Hz Max input voltage range: 90 to 264 VAC @ 47 to 63 Hz Max output power: 250 W 	<i>H3C PSR250-12A & PSR250-12A1 Power Modules User Manual</i>
	High-voltage DC input	<ul style="list-style-type: none"> Rated input voltage range: 240 VDC Max input voltage range: 180 to 320 VDC Max output power: 250 W 	
PSR450-12D	DC input	<ul style="list-style-type: none"> Rated input voltage range: -48 to -60 VDC Max input voltage range: -36 to -72 VDC Max output power: 450 W 	<i>H3C PSR450 Power Supply Series User Guide</i>
PSR180-12A-F	AC input	<ul style="list-style-type: none"> Rated input voltage range: 100 to 240 VAC @ 56/60 Hz Max input voltage range: 90 to 264 VAC @ 47 to 63 Hz Max output power: 180 W Melting current of power supply fuse: 6.3 A/250 V 	<i>H3C PSR180-12A & PSR180-12D Power Supply Series User Manual</i>
PSR180-12A-B	AC input	<ul style="list-style-type: none"> Rated input voltage range: 100 to 	<i>H3C PSR180-12A &</i>

Power supply model	AC or DC input	Specifications	Reference
		240 VAC @ 56/60 Hz <ul style="list-style-type: none"> • Max input voltage range: 90 to 264 VAC @ 47 to 63 Hz • Max output power: 180 W • Melting current of power supply fuse: 6.3 A/250 V 	<i>PSR180-12D Power Supply Series User Manual</i>

Removable fan trays

△ CAUTION:

You can power on the switch only when the switch has all fan trays of the same model installed.

The switch uses removable fan trays and supports the LSWM1FANSCE, LSWM1FANSCBE, LSPM1FANSA-SN, and LSPM1FANSB-SN fan trays.

Table3-3 LSWM1FANSCE and LSWM1FANSCBE fan tray specifications

Item	Specifications
Dimensions (H x W x D)	40 x 40 x 56 mm (1.57 x 1.57 x 2.20 in)
Fan speed	21000 R.P.M
Max airflow	26 CFM
Input voltage	12 V
Maximum power consumption	27.72 W
Airflow direction	<ul style="list-style-type: none"> • LSWM1FANSCE—From the power supply side to the port side • LSWM1FANSCBE—From the port side to the power supply side
Reference	<i>H3C LSWM1FANSCE & LSWM1FANSCBE Fan Trays User Guide</i>

Table3-4 LSPM1FANSA-SN and LSPM1FANSB-SN fan tray specifications

Item	Specifications
Dimensions (H x W x D)	40 x 40.6 x 105 mm (1.57 x 1.60 x 4.13 in)
Fan speed	20000 R.P.M
Max airflow	20 CFM
Input voltage	12 V
Maximum power consumption	9.8 W
Airflow direction	<ul style="list-style-type: none"> • LSPM1FANSA-SN—From the power supply side to the port side • LSPM1FANSB-SN—From the port side to the power supply side
Reference	<i>H3C LSPM1FANSA-SN & LSPM1FANSB-SN Fan Trays User Guide</i>

Expansion cards

Table3-5 Expansion card specifications

Item	Specifications
LSWM2QP2P	
Description	2-port 40GE QSFP+ interface module
Port type and quantity	Two 40 Gbps QSFP+ fiber ports
Available transceiver modules and cables	QSFP+ transceiver modules and cables described in Table4-9 , Table4-10 , and Table4-11 .
Reference	<i>H3C LSWM2QP2P Interface Card User Manual</i>
LSWM2SP8P	
Description	8-port 10GE SFP+ interface module
Port type and quantity	Eight 1/10 Gbps SFP+ fiber ports
Available transceiver modules and cables	See GE SFP transceiver modules and cables described in Table4-3 and 10-GE SFP+ transceiver modules and cables described in Table4-4 and Table4-5 .
Reference	<i>H3C LSWM2SP8PM & LSWM2SP8P Interface Cards User Manual</i>
LSWM4SP8PM	
Description	8-port 10GE SFP+ interface module
Port type and quantity	Eight 1/10 Gbps SFP+ fiber ports
Available transceiver modules and cables	See GE SFP transceiver modules and cables described in Table4-3 and 10-GE SFP+ transceiver modules and cables described in Table4-4 and Table4-5 .
Reference	<i>H3C LSWM4SP8PM Interface Card User Manual</i>
LSWM2ZQP2P	
Description	2-port 100GE QSFP28 interface module
Port type and quantity	Two 40/100 Gbps QSFP28 fiber ports
Available transceiver modules and cables	See QSFP+ transceiver modules and cables described in Table4-9 , Table4-10 , and Table4-11 and QSFP28 transceiver modules and cables described in Table4-13 , Table4-14 , and Table4-15 .
Reference	<i>H3C LSWM2ZQP2P Interface Card User Manual</i>
LSWM2ZSP8P	
Description	8-port 25GE SFP28 interface module
Port type and quantity	Eight 25 Gbps SFP28 fiber ports
Available transceiver modules and cables	See SFP28 transceiver modules and cables described in Table4-7 and Table4-8 .
Reference	<i>H3C LSWM2ZSP8P Interface Card User Manual</i>
LSPM6FWD	
Description	The card is a fourth-generation high performance firewall module. It provides features including firewall, VPN, content filtering, content identification, URL filtering, and NAT. By using this card on a switch, you

Item	Specifications
	can enhance the switch security capabilities without changing the network topology.
Reference	<i>H3C LSPM6FWD Card Manual</i>
LSPM6FWD8	
Description	The card is a fourth-generation high performance firewall module. It provides features including firewall, VPN, content filtering, content identification, URL filtering, and NAT. By using this card on a switch, you can enhance the switch security capabilities without changing the network topology.
Reference	<i>H3C LSPM6FWD8 Card Manual</i>
LSWM2XMGT8P	
Description	8-port 1/2.5/5/10GBASE-T interface module
Port type and quantity	Eight 10G/5G/2.5G/1000BASE-T autosensing Ethernet ports
Port specifications	See Table4-16 for the port specifications.
Reference	<i>H3C LSWM2MGT8P & LSWM2XMGT8P Interface Cards User Manual</i>
LSWM2MGT8P	
Description	8-port 1/2.5/5GBASE-T interface module
Port type and quantity	Eight 5G/2.5G/1000BASE-T autosensing Ethernet ports
Port specifications	See Table4-17 for the port specifications.
Reference	<i>H3C LSWM2MGT8P & LSWM2XMGT8P Interface Cards User Manual</i>
LSWM2ZSP2P	
Description	2-port 25G SFP28 Ethernet optical interface module
Port type and quantity	Two 25G SFP28 fiber ports
Available transceiver modules and cables	See the 25G SFP28 transceiver modules and SFP28 cables described in Table4-7 and Table4-8 .
Reference	<i>H3C LSWM2ZSP2P Interface Card User Manual</i>
LSWM2SP2PB	
Description	2-port 10G SFP+ Ethernet optical interface module
Port type and quantity	Two 1G/10G SFP+ fiber ports
Available transceiver modules and cables	<ul style="list-style-type: none"> See the GE SFP transceiver modules and SFP cables described in Table4-3. See the 10-GE SFP+ transceiver modules and SFP+ cables described in Table4-4, Table4-5, and Table4-6.
Reference	<i>H3C LSWM2SP2PB & LSWM2SP4PB Interface Cards User Manual</i>
LSWM2SP4PB	
Description	4-port 10G SFP+ Ethernet optical interface module
Port type and quantity	Four 1G/10G SFP+ fiber ports
Available transceiver modules and cables	<ul style="list-style-type: none"> See the GE SFP transceiver modules and SFP cables described in Table4-3. See the 10-GE SFP+ transceiver modules and SFP+ cables

Item	Specifications
	described in Table4-4 , Table4-5 , and Table4-6 .
Reference	<i>H3C LSWM2SP2PB & LSWM2SP4PB Interface Cards User Manual</i>

Connecting cables to the ports on interface modules

To connect cables to the ports on interface modules, follow these guidelines:

- Do not bundle cables in their first 20 m (65.62 ft).
- Separate power cords and twisted pair cables at and around the distribution frame.
- For ports adjacent to one another on the device, the peer ports on the distribution frame is preferably not adjacent, for example:
- If the device connects to one distribution frame, connect port 1 on the device to port 1 on the distribution frame and port 2 on the device to port 3 on the distribution frame.
- If the device connects to two distribution frames, connect port 1 on the device to port 1 on distribution frame 1 and port 2 on the device to port 1 on distribution frame 2.
- Keep the device and cables away from the interference source, such as a two-way radio and a high-power variable-frequency drive.

4 Ports and LEDs

Ports

Console port

Table4-1 Console port specifications

Item	Serial console port	Micro USB console port
Connector type	RJ-45	Micro USB 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">• Provides connection to an ASCII terminal.• Provides connection to the serial port of a local PC running terminal emulation program.	Provides connection to the USB port of a local PC running terminal emulation program.
Compatible devices	All device models.	<ul style="list-style-type: none">• S6520X-30QC-EI• S6520X-54QC-EI• S6520X-30HC-EI• S6520X-54HC-EI• S6520X-30QC-HI• S6520X-54QC-HI• S6520X-30HC-HI• S6520X-54HC-HI
You cannot use both console ports at the same time. Only the Micro USB console port works when you connect both ports.		

Management Ethernet port

You can connect the management Ethernet port to a PC or management station for loading and debugging software or remote management.

Table4-2 Management Ethernet port specifications

Item	Specification
Connector type	RJ-45
Port transmission rate	<ul style="list-style-type: none">• 10/100 Mbps, half/full duplex, MDI/MDI-X autosensing• 1000 Mbps, full duplex, MDI/MDI-X autosensing
Transmission medium and max transmission distance	100 m (328.08 ft) over category-5 twisted pair cable
Functions and services	Switch software and Boot ROM upgrade, network management
Compatible devices	All device models

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

The switch provides fixed SFP+ ports on the front panel. The LSWM2SP2PB, LSWM2SP4PB, LSWM4SP8PM, and LSWM2SP8P interface modules also provide SFP+ ports. To connect peer SFP+ ports over a long distance, use SFP/SFP+ transceiver modules and fibers. To connect peer SFP+ ports over a short distance, use SFP/SFP+ cables. You can install GE SFP transceiver modules and cables in [Table4-3](#), 10-GE SFP+ transceiver modules in [Table4-4](#), and 10-GE SFP+ cables in [Table4-5](#) in the SFP+ ports.

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
GE SFP transceiver modules					
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-GE-SX-M M850-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-M M850-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-M M850-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-SM 1310-A	1310	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
			Multi-mode,	500 or 400	550 m (1804.46 ft)

GE SFP transceiver module and cable	Central wavelength (nm)	Connector	Cable/Fiber type and diameter (μm)	Modal bandwidth (MHz × km)	Max transmission distance
			50/125		
			Multi-mode, 62.5/125	500	550 m (1804.46 ft)
SFP-GE-LX-SM 1310-D	1310	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
SFP-GE-LX-SM 1310-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-SM1550	1550	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-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-LH100-SM1550	1550	LC	Single-mode, 9/125	N/A	100 km (62.14 miles)
SFP-GE-LX-SM 1310-BIDI	TX: 1310 RX: 1490	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
SFP-GE-LX-SM 1490-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)
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)
GE SFP cable					
SFP-STACK-Kit	N/A	N/A	N/A	N/A	1.5 m (4.92 ft)

**IMPORTANT:**

The SFP-GE-LX-SM1310-BIDI and SFP-GE-LX-SM1490-BIDI transceiver modules, the SFP-GE-LH40-SM1310-BIDI and SFP-GE-LH40-SM1550-BIDI transceiver modules, and the SFP-GE-LH70-SM1490-BIDI and SFP-GE-LH70-SM1550-BIDI transceiver modules must be used in pairs. For example, if one end uses the SFP-GE-LX-SM1310-BIDI transceiver module, the other end must use the SFP-GE-LX-SM1490-BIDI transceiver module.

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

10-GE SFP+ module	Central wavelength (nm)	Connector	Fiber diameter (µm)	Modal bandwidth (MHz × km)	Max transmission distance
SFP-XG-SX-M M850-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-M M850-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)
			Multi-mode, 62.5/125	200	33 m (108.27 ft)
				160	26 m (85.30 ft)
SFP-XG-SX-M M850-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-SX-M M850-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-LX-S M1310-D	1310	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
SFP-XG-LX-S M1310-E	1310	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
SFP-XG-LX-S M1310-S	1310	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
SFP-XG-LH40 -SM1550	1550	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)
SFP-XG-LH40 -SM1550-D	1550	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)
SFP-XG-LH80	1550	LC	Single-mode,	N/A	80 km (49.71 miles)

10-GE SFP+ module	Central wavelength (nm)	Connector	Fiber diameter (µm)	Modal bandwidth (MHz × km)	Max transmission distance
-SM1550			9/125		
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 m (32.81 ft)
SFP-XG-LX-SM1330-BIDI	TX: 1330 RX: 1270	LC	Single-mode, 9/125	N/A	10 m (32.81 ft)
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	80 km (49.71 miles)
SFP-XG-LH80-SM1550-BIDI	TX: 1550 RX: 1490	LC	Single-mode, 9/125	N/A	80 km (49.71 miles)

! IMPORTANT:

- The SFP-XG-LX-SM1270-BIDI and SFP-XG-LX-SM1330-BIDI transceiver modules must be used in pairs. For example, if one end uses an SFP-XG-LX-SM1270-BIDI transceiver module, the other end must use an SFP-XG-LX-SM1330-BIDI transceiver module.
- The SFP-XG-LH40-SM1270-BIDI and SFP-XG-LH40-SM1330-BIDI transceiver modules must be used in pairs. For example, if one end uses an SFP-XG-LH40-SM1270-BIDI transceiver module, the other end must use an SFP-XG-LH40-SM1330-BIDI transceiver module.
- The SFP-XG-LH80-SM1490-BIDI and SFP-XG-LH80-SM1550-BIDI transceiver modules must be used in pairs. For example, if one end uses an SFP-XG-LH80-SM1490-BIDI transceiver module, the other end must use an SFP-XG-LH80-SM1550-BIDI transceiver module.

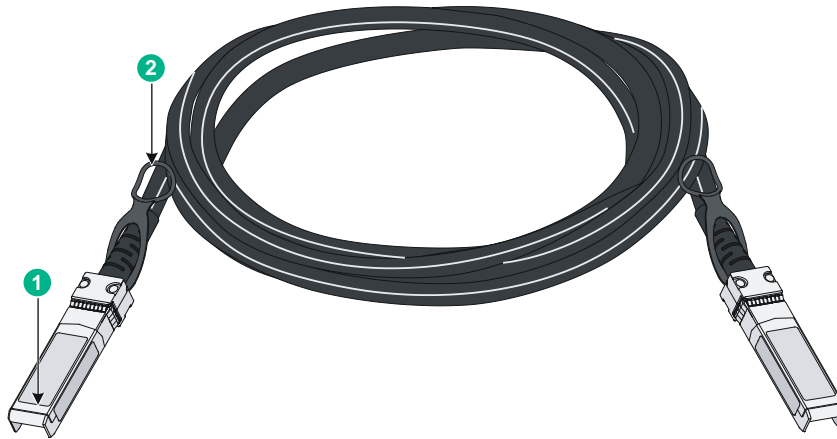
Table4-5 SFP+ copper cables available for the SFP+ ports

SFP+ copper cable	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+ fiber cables available for the SFP+ ports

SFP+ fiber cable	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)

Figure4-1 SFP+ cable



(1) SFP+ module

(2) Pull latch

! **IMPORTANT:**

- Ports 1 to 8 on the S6520X-54HC-EI and S6520X-54HC-HI switches do not support GE SFP transceiver modules or cables.
- The SFP+ ports on the S6520X-54QC-EI and S6520X-54QC-HI switches do not support the LSTM1STK cable.

NOTE:

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

SFP28 port

The LSWM2ZSP8P and LSWM2ZSP2P interface modules provides SFP28 ports. To connect peer SFP28 ports over a long distance, use SFP28 transceiver modules and fibers. To connect peer SFP28 ports over a short distance, use SFP28 cables. You can install SFP28 transceiver modules in [Table4-7](#) and SFP28 cables in [Table4-8](#) in the SFP28 ports.

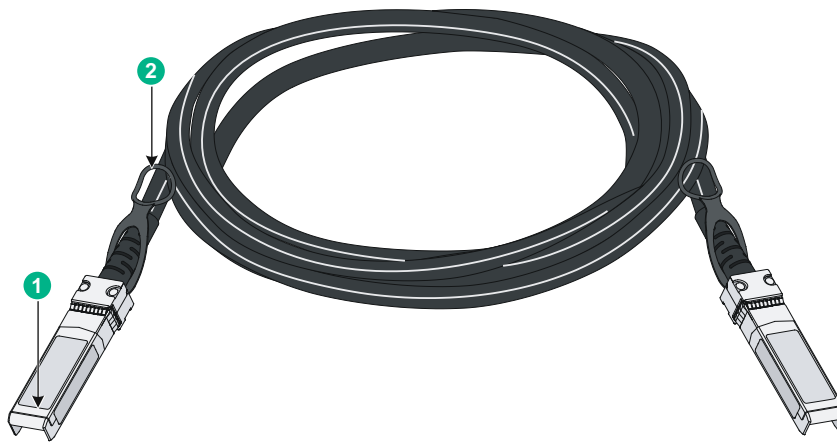
Table4-7 SFP28 transceiver modules available for the SFP28 ports

SFP28 transceiver module	Central wavelength (nm)	Connector	Fiber type and diameter (μm)	Modal bandwidth (MHz × km)	Max transmission distance
SFP-25G-LR-SM1310	1310	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
SFP-25G-SR-MM850	850	LC	Multi-mode, 50/125	2000	70 m (229.66 ft)
				4700	100 m (328.08 ft)

Table4-8 SFP28 cables available for the SFP28 ports

SFP28 cable	Max transmission distance
SFP-25G-D-CAB-1M	1 m (3.28 ft)
SFP-25G-D-CAB-3M	3 m (9.84 ft)
SFP-25G-D-CAB-5M	5 m (16.40 ft)
SFP-25G-D-AOC-3M	3 m (9.84 ft)
SFP-25G-D-AOC-5M	5 m (16.40 ft)
SFP-25G-D-AOC-7M	7 m (22.97 ft)
SFP-25G-D-AOC-10M	10 m (32.81 ft)
SFP-25G-D-AOC-20M	20 m (65.62 ft)

Figure4-2 SFP28 cable



(1) SFP28 module

(2) Pull latch

NOTE:

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

QSFP+ port

The S6520X-30QC-EI, S6520X-54QC-EI, S6520X-30QC-HI, and S6520X-54QC-HI switches and the LSWM2QP2P interface module provide QSFP+ ports. You can install QSFP+ transceiver modules in [Table4-9](#), QSFP+ cables in [Table4-10](#), and QSFP+ to SFP+ cables in [Table4-11](#) in the QSFP+ ports.

Table4-9 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-S R4-MM850	850	MPO	Multi-mode, 50/125	2000	100 m (328.08 ft)
				4700	150 m (492.12 ft)
QSFP-40G-C SR4-MM850	850	MPO	Multi-mode, 50/125	2000	300 m (984.25 ft)
				4700	400 m (1312.33 ft)
QSFP-40G-LR 4-PSM1310	1310	MPO	Single-mode, 9/125	N/A	10 km (6.21 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 • 1291 • 1311 • 1331	LC	Single-mode, 9/125	N/A	2 km (1.24 miles)
QSFP-40G-BI DI-SR-MM850	Two lanes: • 850. • 900.	LC	Multi-mode, 50/125	2000	100 m (328.08 ft)
				4700	150 m (492.12 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-E R4-WDM1300	Four lanes: • 1271 • 1291 • 1311 • 1331	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)

Table4-10 QSFP+ 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)

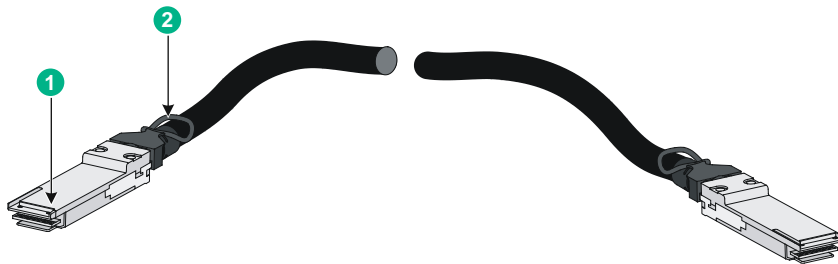
Table4-11 QSFP+ to SFP+ cables available for the QSFP+ ports

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)

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

QSFP+ to SFP+ 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)

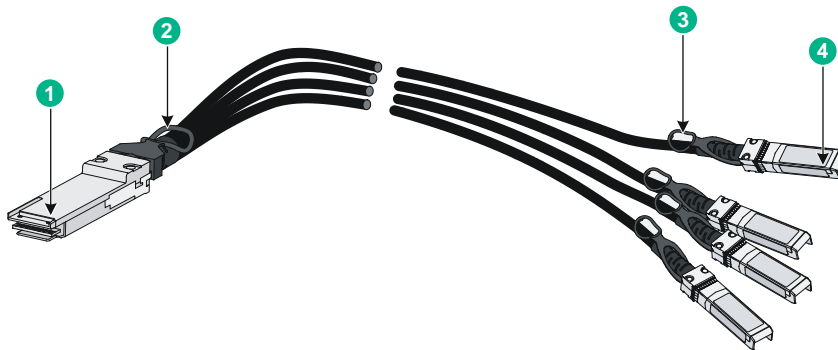
Figure4-3 40G QSFP+ cable



(1) QSFP+ module

(2) Pull latch

Figure4-4 40G QSFP+ to SFP+ cable



(1) QSFP+ module

(2) QSFP+ module side pull latch

(3) SFP+ module side pull latch

(4) SFP+ module

! **IMPORTANT:**

- You can install a QSFP-40G-LR4-PSM1310 transceiver module on an S6520X-30QC-EI, S6520X-54QC-EI, S6520X-30QC-HI, or S6520X-54QC-HI switch, or on a QSFP+ port on an LSWM2QP2P interface module. You cannot use a QSFP-40G-LR4-PSM1310 transceiver module to connect a QSFP+ port to four SFP+ ports.
- 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.
- Only the S6520X-30HF-EI, S6520X-54HF-EI, S6520X-30HF-HI, and S6520X-54HF-HI switches support the QSFP-40G-ER4-WDM1300 transceiver modules.

NOTE:

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

QSFP28 port

The S6520X-30HC-EI, S6520X-54HC-EI, S6520X-30HC-HI, S6520X-54HC-HI, S6520X-30HF-EI, S6520X-54HF-EI, S6520X-30HF-HI, and S6520X-54HF-HI switches and the LSWM2ZQP2P interface module provide QSFP28 ports. You can install QSFP+ modules and cables in [Table4-9](#), [Table4-10](#), and [Table4-11](#), and QSFP28 modules and cables in [Table4-13](#) and [Table4-14](#) in the QSFP28 ports as needed.

Table4-13 QSFP28 transceiver modules available for the QSFP28 ports

Model	Central wavelength (nm)	Connector	Cable/Fiber type and diameter (μm)	Modal bandwidth (MHz × km)	Max transmission distance
QSFP-100G-SR4-MM850	840 to 860	MPO	Multi-mode, 50/125	2000	70 m (229.66 ft)
				4700	100 m (328.08 ft)
QSFP-100G-ER4L-WDM1300	Four lanes: <ul style="list-style-type: none">• 1295• 1300• 1304• 1309	LC	Single-mode, 9/125	N/A	40 km (24.86 miles)
QSFP-100G-LR4-WDM1300-A	Four lanes: <ul style="list-style-type: none">• 1295• 1300• 1304• 1309	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)

Model	Central wavelength (nm)	Connector	Cable/Fiber type and diameter (μm)	Modal bandwidth (MHz × km)	Max transmission distance
QSFP-100G-LR 4-WDM1300	Four lanes: <ul style="list-style-type: none"> • 1295.56 • 1300.05 • 1304.58 • 1309.14 	LC	Single-mode, 9/125	N/A	10 km (6.21 miles)
QSFP-100G-LR 4L-WDM1300	Four lanes: <ul style="list-style-type: none"> • 1271 • 1291 • 1311 • 1331 	LC	Single-mode, 9/125	N/A	2 km (1.24 miles)
QSFP-100G-PS M4-SM1310	1310	MPO	Single-mode, 9/125	N/A	0.5 km (0.31 miles)

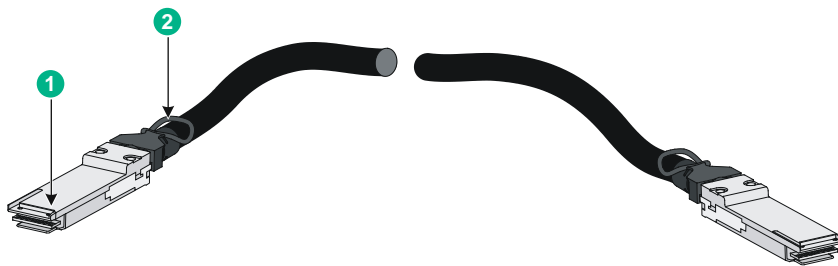
Table4-14 QSFP28 cables available for the QSFP28 ports

Model	Max transmission distance
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)
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)

Table4-15 QSFP28 to SFP28 cables available for the QSFP28 ports

QSFP28 fiber cable	Max transmission distance
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)

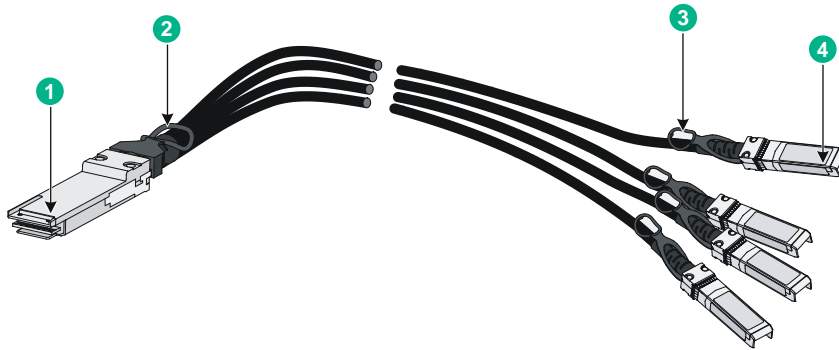
Figure4-5 100G QSFP28 cable



(1) QSFP28 module

(2) Pull latch

Figure4-6 100G QSFP28 to 4 × 25G SFP28 cable



(1) QSFP28 module	(2) QSFP28 module side pull latch
(3) SFP28 module	(4) SFP28 module side pull latch

IMPORTANT:

- A QSFP-100G-SR4-MM850 transceiver module supports one-to-four splitting. You can use it to connect a 100G QSFP28 port to four 25G SFP28 ports. The QSFP28 transceiver module and SFP28 transceiver modules to be connected must be the same in specifications, including central wavelength and fiber type.
- QSFP28 ports do not support QSFP+ to SFP+ cables and cannot be split to 10GE ports by using QSFP+ transceiver modules.
- The S6520X-30HF-EI, S6520X-54HF-EI, S6520X-30HF-HI, and S6520X-54HF-HI switches do not support the QSFP-100G-D-CAB-5M transceiver modules.

NOTE:

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

10G/5G/2.5G/1000BASE-T autosensing Ethernet ports

The LSWM2XMGT8P interface module provides 10G/5G/2.5G/1000BASE-T autosensing Ethernet ports. [Table4-16](#) describes the 10G/5G/2.5G/1000BASE-T autosensing Ethernet port specifications.

Table4-16 10G/5G/2.5G/1000BASE-T autosensing Ethernet port specifications

Item	Specification
Connector type	RJ-45
Rate, duplex mode, and auto-MDI/MDI-X	1/2.5/5/10 Gbps, full-duplex, auto MDI/MDI-X
Transmission medium and max transmission distance	<ul style="list-style-type: none"> • 10G mode <ul style="list-style-type: none"> ○ Category 6 or above shielded twisted pair cable: 100 m (328.08 ft) ○ Category 5e twisted pair cable or Category 6 unshielded twisted pair cable: 55 m (180.45 ft) • 5G mode: 100 m (328.08 ft) over a Category 5e or above twisted pair cable • 2.5G mode: 200 m (656.17 ft) over a Category 5e or above twisted pair cable

Item	Specification
	<ul style="list-style-type: none"> 1G mode: 140 m (459.32 ft) over a Category 5e or above twisted pair cable
Standard	IEEE 802.3ab, IEEE 802.3an, 802.3bz

5G/2.5G/1000BASE-T autosensing Ethernet ports

The LSWM2MGT8P interface module provides 5G/2.5G/1000BASE-T autosensing Ethernet ports. [Table4-16](#) describes the 5G/2.5G/1000BASE-T autosensing Ethernet port specifications.

Table4-17 5G/2.5G/1000BASE-T autosensing Ethernet port specifications

Item	Specification
Connector type	RJ-45
Rate, duplex mode, and auto-MDI/MDI-X	1/2.5/5 Gbps, full-duplex, auto MDI/MDI-X
Transmission medium and max transmission distance	<ul style="list-style-type: none"> 5G mode: 100 m (328.08 ft) over a Category 5e or above twisted pair cable 2.5G mode: 200 m (656.17 ft) over a Category 5e or above twisted pair cable 1G mode: 140 m (459.32 ft) over a Category 5e or above twisted pair cable
Standard	IEEE 802.3ab, IEEE 802.3an, 802.3bz

LEDs

System status LED

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

Table4-18 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.

Power supply status LED

The switch provides two power supply slots on the rear panel. The S6520X-30QC-EI, S6520X-54QC-EI, S6520X-30HC-EI, S6520X-54HC-EI, S6520X-30QC-HI, S6520X-54QC-HI, S6520X-30HC-HI, and S6520X-54HC-HI switches each provide two power status LEDs PWR1 and PWR2 on the front panel. The power status LEDs show the operating status of power supply 1 (PWR1) and power supply 2 (PWR2), respectively.

Table4-19 Power supply status LED description

LED mark	Status	Description
PWR1/PWR2	Steady green	A power supply is installed in the power supply slot, and the power supply is outputting power correctly.
	Steady yellow	A power supply is installed in the power supply slot, but the power supply has failed or no power is input to the power supply.
	Off	No power supply is installed in the power supply slot.

MODE LED

To show more information about the switch through the port LEDs, the S6520X-30QC-EI, S6520X-54QC-EI, S6520X-30HC-EI, S6520X-54HC-EI, S6520X-30QC-HI, S6520X-54QC-HI, S6520X-30HC-HI, and S6520X-54HC-HI switches each provide a MODE LED (MODE) to indicate the type of information that the port status LEDs are showing.

You can use the mode button to change the indication of the MODE LED.

Table4-20 Description for the mode LED

LED mark	Status	Description
MODE	Steady green	The port status LEDs indicate port rates.
	Flashing yellow	The port status LEDs indicates the IRF member ID of the switch. For example, if the LEDs for ports 1 to 5 are steady green and the other LEDs are off, the IRF member ID of the switch is 5.

! IMPORTANT:

- In versions earlier than Release 6326 (not inclusive) or Release 65xx versions earlier than Release 6525 (not inclusive), the MODE LED changes in color and indication after you press the mode button and keeps that state until you press the mode button again.
- In other versions, after you press the mode button, the MODE LED changes in color and indication and keeps that state for only 60 seconds and then turns steady green automatically.

Management Ethernet port LED

Table4-21 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.

SFP+ port LED

Table4-22 describes the SFP+ port LEDs on the S6520X-30QC-EI, S6520X-54QC-EI, S6520X-30HC-EI, S6520X-54HC-EI, S6520X-30QC-HI, S6520X-54QC-HI, S6520X-30HC-HI, and S6520X-54HC-HI switches.

Table4-22 SFP+ port LED description

MODE LED status	SFP+ port LED status	Description
Steady green (rate mode)	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	<ul style="list-style-type: none"> No link is present on the port. The mode LED operates in IRF mode.
Flashing yellow (IRF mode)	Steady green	The port status LEDs on the switch work in conjunction to indicate the IRF member ID of the switch. For example, if the LEDs for ports 1 to 5 are steady green and the other port LEDs are off, the IRF member ID of the switch is 5.

Table4-23 describes the SFP+ port LEDs on the S6520X-30HF-EI, S6520X-54HF-EI, S6520X-30HF-HI, and S6520X-54HF-HI switches.

Table4-23 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 transceiver module or cable has been installed or no link is present on the port.

QSFP+ port LED

The S6520X-30QC-EI, S6520X-54QC-EI, S6520X-30QC-HI, and S6520X-54QC-HI switches each provide two QSFP+ ports. A LED is provided for each QSFP+ port to indicate its operating status.

Table4-24 QSFP+ port LED description

LED status	Description
Steady green	A link is present on the port and the port is operating at 40 Gbps.
Flashing green	The port is sending or receiving data at 40 Gbps.
Steady yellow	A link is present on the port and the port is operating at 10 Gbps.
Flashing yellow	The port is sending or receiving data at 10 Gbps.
Off	<ul style="list-style-type: none"> No transceiver module or cable has been installed or no link is present on the port. The mode LED operates in IRF mode.

QSFP28 port LED

The S6520X-30HC-EI, S6520X-54HC-EI, S6520X-30HC-HI, S6520X-54HC-HI, S6520X-30HF-EI, S6520X-54HF-EI, S6520X-30HF-HI, and S6520X-54HF-HI switches each provide QSFP28 ports. A LED is provided for each QSFP28 port to indicate its operating status.

Table4-25 QSFP28 port LED description

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	<ul style="list-style-type: none">No transceiver module or cable has been installed in the port or no link is present on the port.The mode LED is in IRF mode. (Only supported on the S6520X-30QC-EI, S6520X-54QC-EI, S6520X-30HC-EI, S6520X-54HC-EI, S6520X-30QC-HI, S6520X-54QC-HI, S6520X-30HC-HI, and S6520X-54HC-HI switches.)

Expansion card status LED

The expansion card status LEDs SLOT1 and SLOT2 on the front panel indicate the operating state of the expansion cards in slot 1 and slot 2, respectively.

Table4-26 Expansion card status LED description

LED mark	Status	Description
SLOT1/SLOT2	Steady green	The expansion card is present and is operating correctly.
	Flashing yellow	The switch does not support the card, or the card has failed.
	Off	The expansion slot is empty.

Port status LED on an expansion card

An expansion card provides a port status LED for each port. For more information about the LEDs, see the manual for the expansion card.

Input/output status LED on a power supply

The PSR250-12A and PSR250-12A1 power supplies each have a LED on the front panel to indicate the power input and output status. For more information about the LED, see the manual for the power supply.

Fan tray status LED on a fan tray

The LSWM1FANSCE, LSWM1FANSCBE, LSPM1FANSA-SN, and LSPM1FANSB-SN fan trays each have a LED to indicate the fan tray operating status.

Table4-27 LSWM1FANSCE and LSWM1FANSCBE fan tray status LED description

Status	Description
Steady yellow	The fan tray is operating correctly.
Flashing yellow	The fan tray is faulty.
Off	The fan tray fails to be installed correctly or the switch is powered off.

Table4-28 LSPM1FANSA-SN and LSPM1FANSB-SN fan tray status LED description

Status	Description
On	The fan tray is faulty.
Off	The fan tray is operating correctly or the switch is powered off.

5 Appendix D Cooling system

To dissipate heat timely and enhance system stability, the switch uses a high-performance cooling system. Consider the site ventilation design when you plan the installation site for the switch.

The switch uses removable fan trays. They provide airflow from the port side to the power supply side or from power supply side to the port side by using different types of fan trays. You must install all fan trays of the same model for the switch. [Table5-1](#) describes fan trays available for the switch.

Table5-1 Fan trays available for the switches

Device model	Fan tray	Airflow direction
S6520X-30QC-EI S6520X-54QC-EI	LSWM1FANSCE	From the power supply side to the port side and chassis sides
S6520X-30HC-EI S6520X-54HC-EI S6520X-30QC-HI S6520X-54QC-HI S6520X-30HC-HI S6520X-54HC-HI	LSWM1FANSCBE	From the port side and chassis sides to the power supply side
S6520X-30HF-EI S6520X-54HF-EI	LSPM1FANSA-SN	From the power supply side to the port side
S6520X-30HF-HI S6520X-54HF-HI	LSPM1FANSB-SN	From the port side to the power supply side

Figure5-1 Airflow direction (S6520X-54QC-EI)

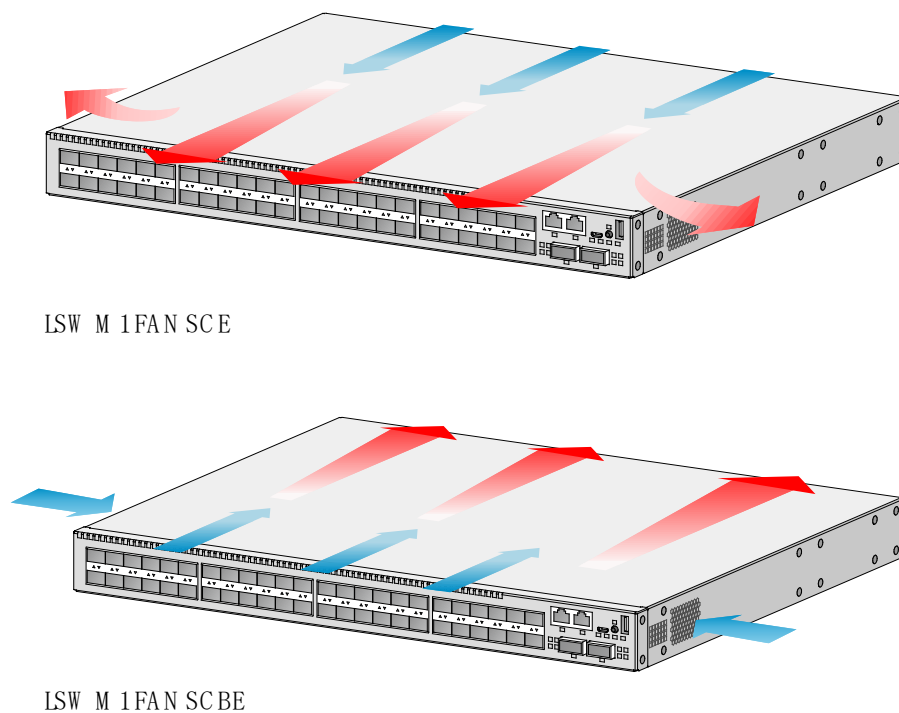


Figure5-2 Airflow direction (LSPM1FANSA-SN on S6520X-30HF-EI)

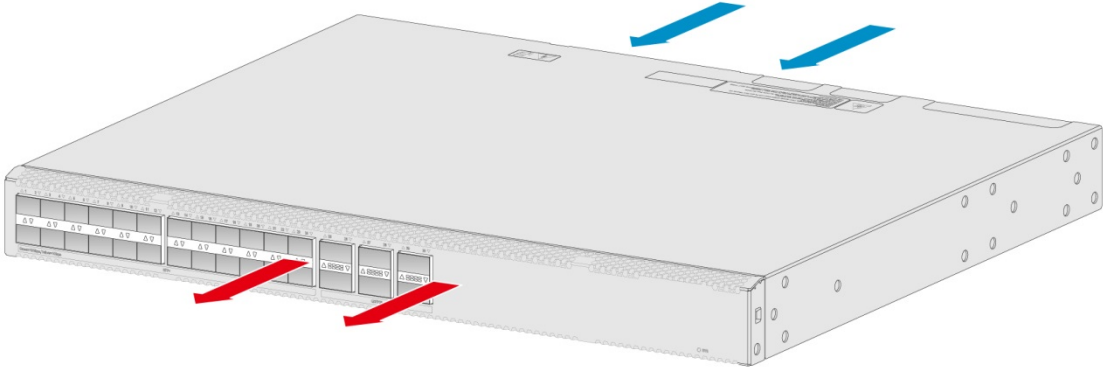


Figure5-3 Airflow direction (LSPM1FANSA-SN on S6520X-30HF-EI)

