H3C S9825 & S9855 Switch Series

Installation Guide

New H3C Technologies Co., Ltd.
http://www.h3c.com

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Preface

H3C S9825 & S9855 Switch Series Installation Guide describes the installation, power-on, maintenance, and troubleshooting of the H3C S9825 & S9855 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 S9825 & S9855 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.
Italic	*Italic* text represents arguments that you replace with actual values.
[ ]	Square brackets enclose syntax choices (keywords or arguments) that are optional.
{ x | y | ... }	Braces enclose a set of required syntax choices separated by vertical bars, from which you select one.
[x | y | ...]	Square brackets enclose a set of optional syntax choices separated by vertical bars, from which you select one or none.
{ x | y | ... } *	Asterisk marked braces enclose a set of required syntax choices separated by vertical bars, from which you select a minimum of one.
[x | y | ...] *	Asterisk marked square brackets enclose optional syntax choices separated by vertical bars, from which you select one choice, multiple choices, or none.
&<1-n>	The argument or keyword and argument combination before the ampersand (&) sign can be entered 1 to n times.
#	A line that starts with a pound (#) sign is comments.

GUI conventions

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

Symbols

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

Network topology icons

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

Examples provided in this document

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

Documentation feedback

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

We appreciate your comments.

Contents

1 Preparing for installation

The H3C S9825 & S9855 switch series include the following models:

Series	Product model	Product code
H3C S9825 and S9855 switch series	S9825-64D	LS-9825-64D
	S9825-128B	LS-9825-128B
	S9855-32D	LS-9855-32D
	S9855-48CD8D	LS-9855-48CD8D
	S9855-24B8D	LS-9855-24B8D
	S9855-40B	LS-9855-40B

H3C S9825 and S9855 switch series are a new generation of high-performance and high-density 400GE, 200GE, and 100GE switches launched by H3C for data centers and high-end campuses. The S9825 and S9855 switches provide high-density 400GE, 200GE, 100GE, 25GE, and 10GE ports and support power supply and fan module redundancy. You can deploy them in the new generation of data center core and aggregation networks. By connecting to upstream S12500 core switches through 400GE or 200GE links and to downstream access switches through 200GE, 100GE, or 40GE links, the S9825 and S9855 switches provide high bandwidth and large-capacity server access.

Safety recommendations

To avoid any equipment damage or bodily injury caused by incorrect 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 in the equipment room and keep the air inlet and outlet vents of the switch free of obstruction.
- Make sure the operating voltage is in the required range.
- To avoid electrical shocks, do not open the chassis while the switch is operating. As a best practice, do not open the chassis even if the switch is powered off.
- To avoid ESD damage, always wear an ESD wrist strap when replacing a removable component such as a power supply or fan module.

Examining the installation site

The switch must be used indoors. Make sure the installation site meets the following requirements:

- Adequate clearance is reserved at the air inlet and outlet vents for ventilation.
- The rack has a good ventilation system.

- Identify the hot aisle and cold aisle layout 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 devices from entering the top device.
- The rack is sturdy enough to support the switch and its accessories.
- The rack 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

Maintain the temperature and humidity in the equipment room in the 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 problems 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 information about the temperature and humidity requirements, see *H3C S9825 & S9855 Switch Series 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 switch requirement for cleanliness.

Table1-1 Switch requirement for cleanliness

Substance	Particle diameter	Concentration limit
Dust particles	≥ 0.5 μm	≤ 1.8×10^7 particles/m^3

Corrosive gas limit

Corrosive gases can accelerate corrosion and aging of metal components. Make sure the corrosive gases do not exceed the concentration limits as shown in Table1-2.

Table1-2 Corrosive gas concentration limits

Gas	Average concentration (mg/m^3)	Maximum concentration (mg/m^3)
SO_2	0.3	1.0
H_2S	0.1	0.5
Cl_2	0.1	0.3
HCI	0.1	0.5
HF	0.01	0.03
NH_3	1.0	3.0
O_3	0.05	0.1

Gas	Average concentration (mg/m^3)	Maximum concentration (mg/m^3)
NO_X	0.5	1.0

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!

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.

The switch is a Class 1M laser device.

Installation tools

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

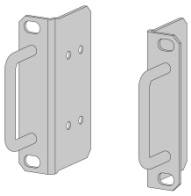
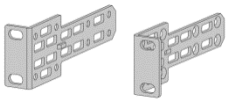
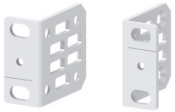
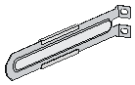
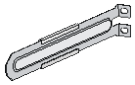
- Phillips screwdriver.
- ESD wrist strap.
- Marker.

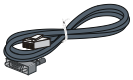
Installation accessories

Before installation, make sure you have all the required installation accessories. Some installation accessories are provided with the switch, and others are user-supplied. For more information, see the packing list for the switch.

Table1-3 Installation accessories

Description	Quantity	Applicable switch models
Mounting brackets	1 kit	S9825-64D

Description	Quantity	Applicable switch models
		
Mounting brackets 	1 kit	S9825-128B
Mounting brackets 	1 kit	• S9855-48CD8D • S9855-24B8D • S9855-32D
Mounting brackets 	1 kit	S9855-40B
1U rack-mount rail kit (short slide rails) 	1 kit	• S9855-48CD8D • S9855-24B8D • S9855-32D
1U rack-mount rail kit (long slide rails) 	1 kit	S9855-40B
LSVM1BSR10 bottom support rails 	1 kit	• S9825-64D • S9825-128B
M6 screw and cage nut 	User supplied	• S9855-48CD8D • S9825-64D • S9825-128B • S9855-24B8D • S9855-40B • S9855-32D
Grounding cable 	1	All models
Grounding screw	2	All models

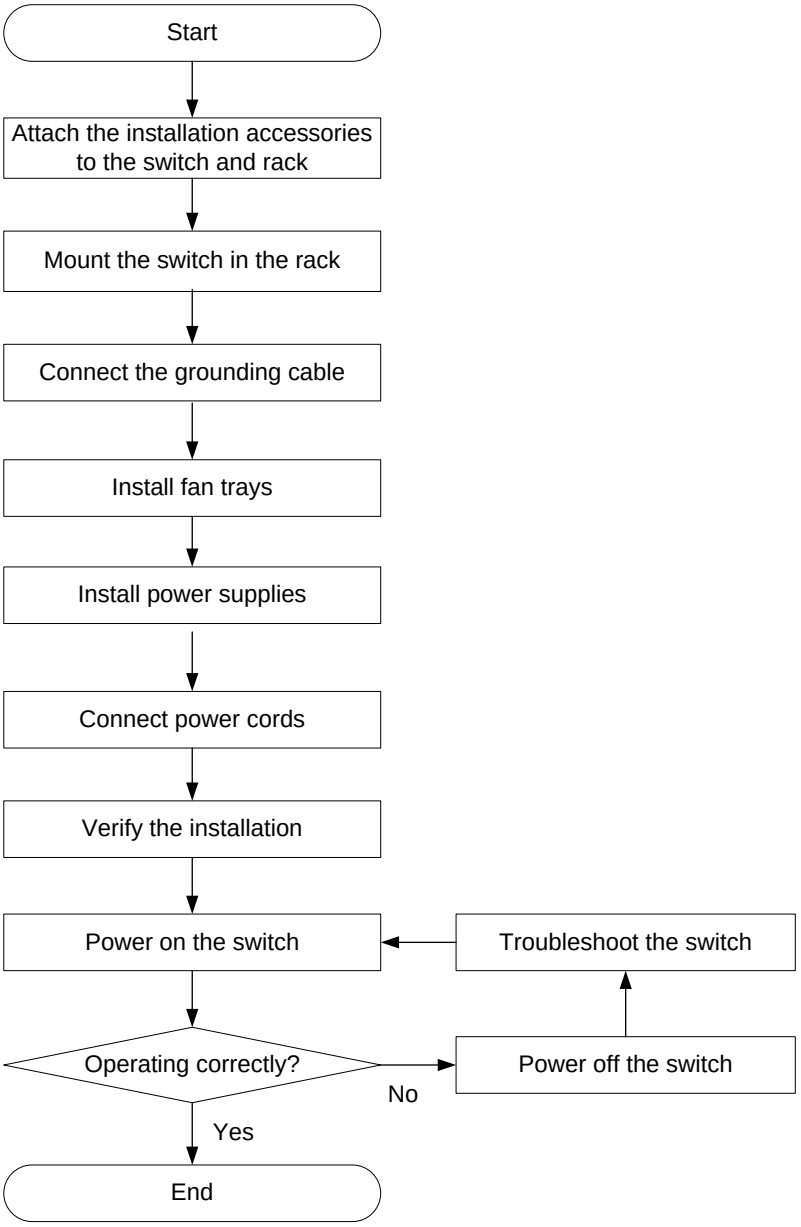
Description	Quantity	Applicable switch models
		
Releasable cable tie 	User supplied	• S9855-48CD8D • S9825-64D • S9825-128B • S9855-24B8D • S9855-40B • S9855-32D
Console cable 	User supplied	• S9855-48CD8D • S9825-64D • S9825-128B • S9855-24B8D • S9855-40B • S9855-32D
SFP port dust plug 	Same number as the DSFP or SFP+ ports	• S9855-48CD8D • S9855-32D
QSFP port dust plug 	Same number as the QSFP-DD/QSFP56 ports	• S9855-48CD8D • S9825-64D • S9825-128B • S9855-24B8D • S9855-40B • S9855-32D

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 caused thereby.

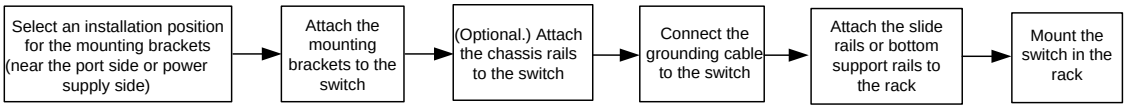
Figure2-1 Installation flow



Installing the switch in a 19-inch rack

Rack-mounting procedure at a glance

Figure2-2 Rack-mounting procedure



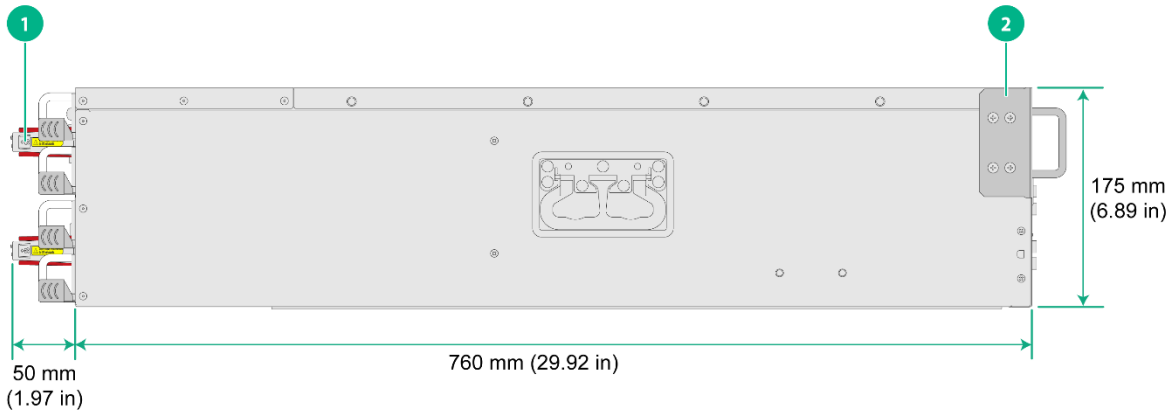
NOTE:

If a rack shelf is available, you can put the switch on the rack shelf and slide the switch to a position so that the mounting brackets are flush against the front rack posts. Then use screws to secure the mounting brackets to the rack.

Chassis dimensions

Figure2-3 shows the dimensions of the S9825-64D switch.

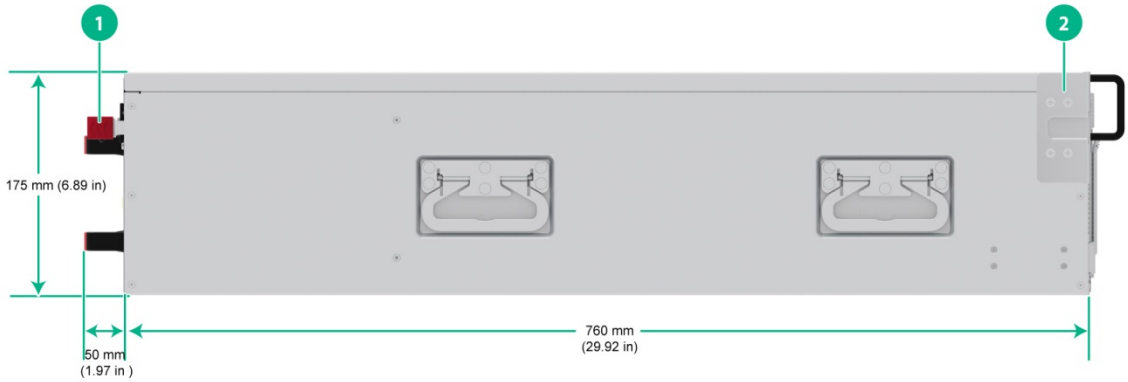
Figure2-3 Dimensions of an S9825-64D switch that has mounting brackets installed



(1) Fan module handle	(2) Mounting bracket

Figure2-4 shows the dimensions of the S9825-128B switch.

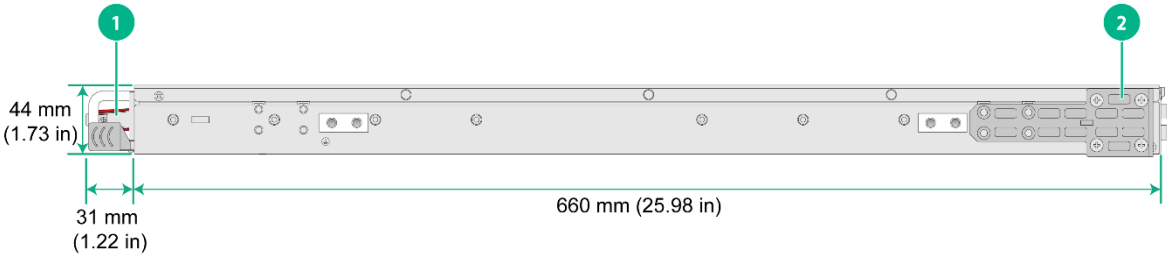
Figure2-4 Dimensions of an S9825-128B switch that has mounting brackets installed



(1) Fan module handle	(2) Mounting bracket

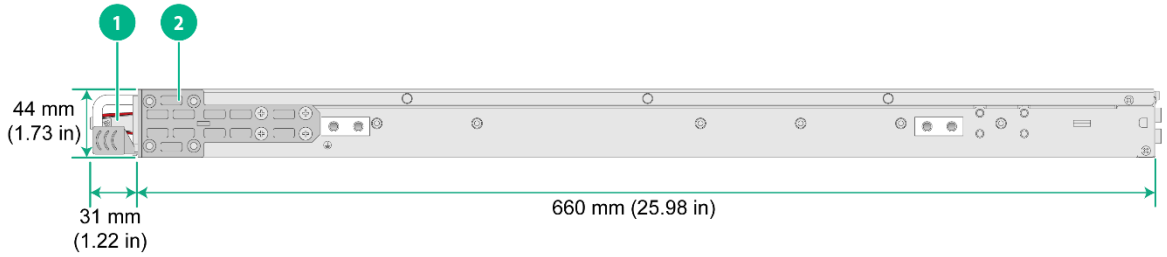
Figure2-5 and Figure2-6 show the dimensions of the S9855-48CD8D/S9855-24B8D/S9855-32D switch.

Figure2-5 S9855-48CD8D/S9855-24B8D/S9855-32D switch dimensions with mounting brackets installed at the port side



(1) Fan module handle	(2) Mounting bracket

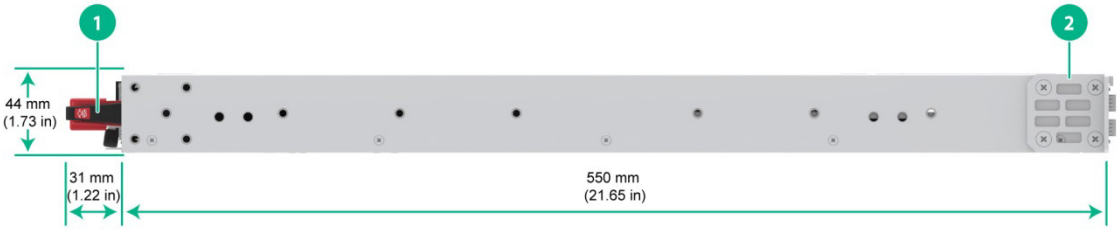
Figure2-6 S9855-48CD8D/S9855-24B8D/S9855-32D switch dimensions with mounting brackets installed at the power supply side



(1) Fan module handle	(2) Mounting bracket

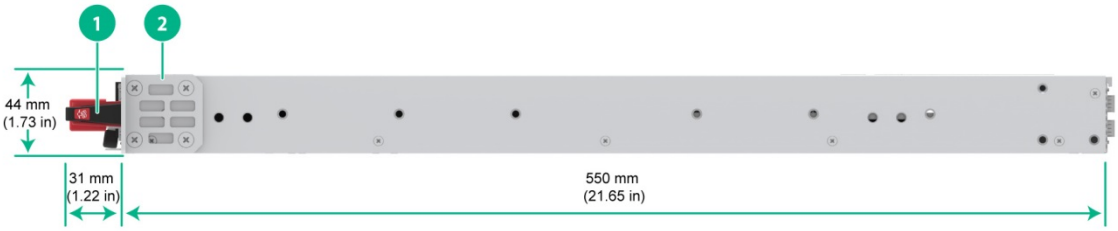
Figure2-7 and Figure2-8 show the dimensions of the S9855-40B switch.

Figure2-7 S9855-40B switch dimensions with mounting brackets installed at the port side



(1) Fan module handle	(2) Mounting bracket

Figure2-8 S9855-40B switch dimensions with mounting brackets installed at the power supply side



(1) Fan module handle	(2) Mounting bracket

Rack requirements

To mount the switch in a 19-inch rack, make sure the rack meets the requirements in Table2-1.

Table2-2 Rack requirements

Switch model	Installation method	Chassis dimensions	Requirements for the distance between the front and rear rack posts	Rack depth requirements

S9825-64D	Bottom support rails (optional)	• **Height**—175 mm (6.89 in)/4 RUs
		• **Width**—440 mm (17.32 in)
		• **Depth**—810 mm (31.89 in)
		  ○ 760 mm (29.92 in) for the chassis
		  ○ 50 mm (1.97 in) for the fan module handles
			630 to 900 mm (24.80 to 35.43 in)	• A minimum of 1000 mm (39.37 in) in depth (recommended)
				• A minimum of 130 mm (5.12 in) between the front rack post and the front door.
				• A minimum of 860 mm (33.86 in) between the front rack post and the rear door.

S9825-128B	Bottom support rails (optional)	• **Height**—175 mm (6.89 in)/4 RUs • **Width**—442 mm	630 to 900 mm (24.80 to 35.43 in)	• A minimum of 1000 mm (39.37 in) in depth (recommended)

Switch model	Installation method	Chassis dimensions	Requirements for the distance between the front and rear rack posts	Rack depth requirements

		(17.40 in)
		• **Depth**—810 mm (31.89 in)
		  ○ 760 mm (29.92 in) for the chassis
		  ○ 50 mm (1.97 in) for the fan module handles
				• A minimum of 130 mm (5.12 in) between the front rack post and the front door.
				• A minimum of 860 mm (33.86 in) between the front rack post and the rear door.

• S9855-48CD8D
• S9855-24B8D
• S9855-32D
	Mounting brackets and short slide rails (provided)	• **Height**—44 mm (1.73 in)/1 RU
		• **Width**—440 mm (17.32 in)
		• **Depth**—691 mm (27.20 in)
		  ○ 660 mm (25.98 in) for the chassis
		  ○ 31 mm (1.22 in) for the fan module handles
			472 to 833 mm (18.58 to 32.80 in)
			For more information, see Table2-3
				• A minimum of 1000 mm (39.37 in) in depth (recommended)
				• A minimum of 130 mm (5.12 in) between the front rack post and the front door.
				• A minimum of 760 mm (29.92 in) between the front rack post and the rear door.

S9855-40B	Mounting brackets and long slide rails (provided)	• **Height**—44 mm (1.73 in)/1 RU
		• **Width**—440 mm (17.32 in)
		• **Depth**—581 mm (22.87 in)
		  ○ 550 mm (21.65 in) for the chassis
		  ○ 31 mm (1.22 in) for the fan module handles
			620 to 938 mm (24.41 to 36.93 in)
			For more information, see Table2-3
				• A minimum of 1000 mm (39.37 in) in depth (recommended)
				• A minimum of 130 mm (5.12 in) between the front rack post and the front door.
				• A minimum of 650 mm (25.59 in) between the front rack post and the rear door.

IMPORTANT:

To reserve enough cabling space and close the rack door easily, make sure the rack meets the depth requirements.

Installation accessories

Table2-3 Installation accessories for rack-mounting the switch

Switch model	Mounting brackets (provided)	Rack mounting rail kit
S9855-48CD8D S9855-24B8D S9855-32D	1U, one pair. See Figure2-9.	1U, including one pair of short slide rails and one pair of chassis rails (provided). See Figure2-13.
S9825-64D	2U, one pair. See Figure2-10.	2U, including one pair of bottom support rails (optional). See Figure2-14.
S9825-128B	2U, one pair. See Figure2-11.	2U, including one pair of bottom support rails (optional). See Figure2-14.
S9855-40B	1U, one pair. See Figure2-12.	1U, including one pair of long slide rails and one pair of chassis rails (provided). See Figure2-15.

Figure2-9 1U mounting brackets provided with the S9855-48CD8D, S9855-24B8D, and S9855-32D switches

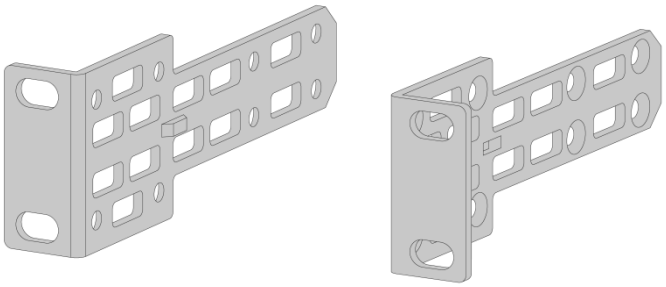


Figure2-10 2U mounting brackets provided with the S9825-64D switch

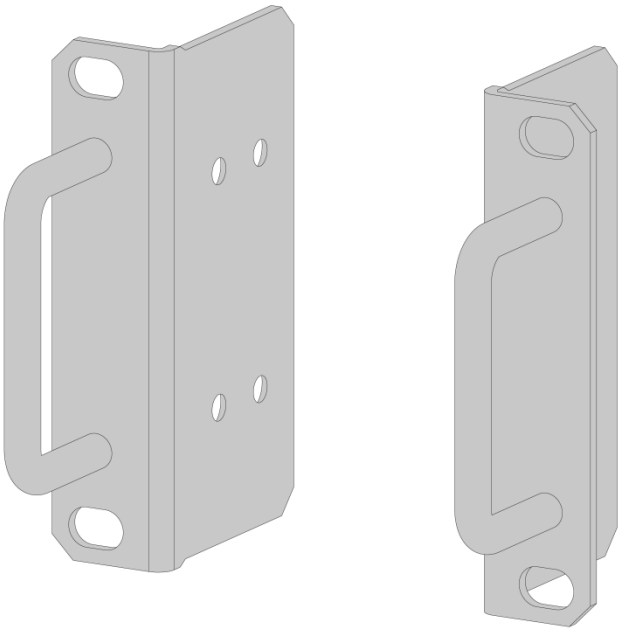


Figure2-11 2U mounting brackets provided with the S9825-128B switch

Figure2-12 1U mounting brackets provided with the S9855-40B switch

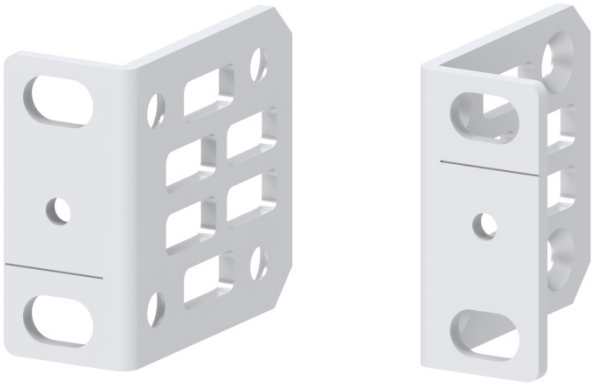


Figure2-13 1U short slide rails and chassis rails

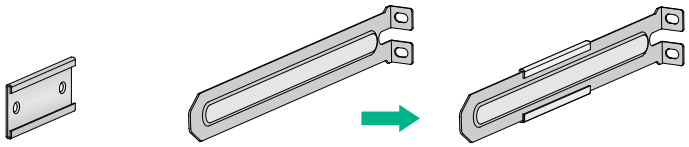
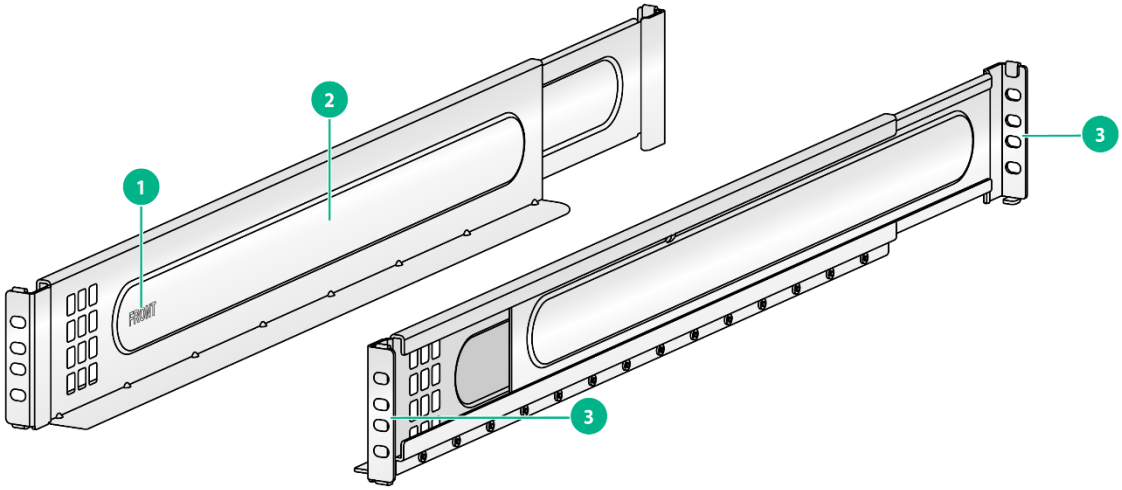
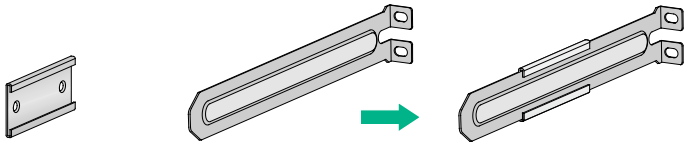


Figure2-14 2U bottom support rails



(1) Front end mark (FRONT)	(2) Guide rail	(3) Installation holes

Figure2-15 1U long slide rails and chassis rails



Mounting brackets, chassis rails, and grounding cable installation positions

The S9825-64D switch has one grounding point as shown in Figure2-16.

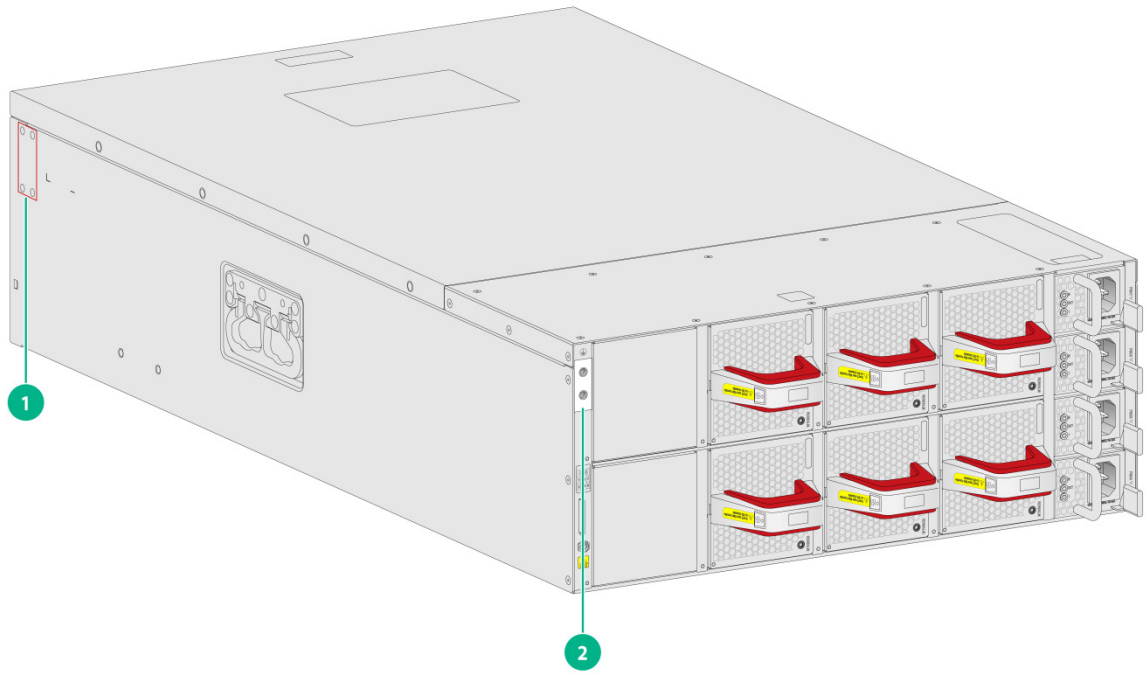
The S9825-128B switch has one grounding point as shown in Figure2-17.

The S9855-48CD8D, S9855-24B8D, and S9855-32D switches each provides two grounding points: primary grounding point (with a grounding sign) and auxiliary grounding point, as shown in Figure2-18.

The S9855-40B switch provides two grounding points: primary grounding point (with a grounding sign) and auxiliary grounding point, as shown in Figure2-19.

Select installation positions for the mounting brackets, chassis rails, and grounding cable as required.

Figure2-16 Mounting brackets and grounding cable installation positions on the S9825-64D switch

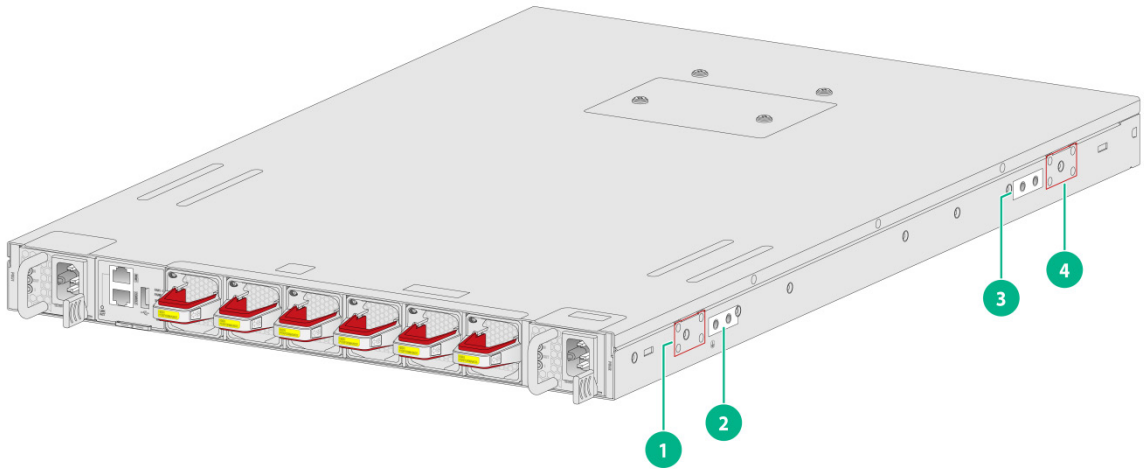


(1) Mounting bracket installation position	(2) Grounding point

Figure2-17 Mounting brackets and grounding cable installation positions on the S9855-128B switch

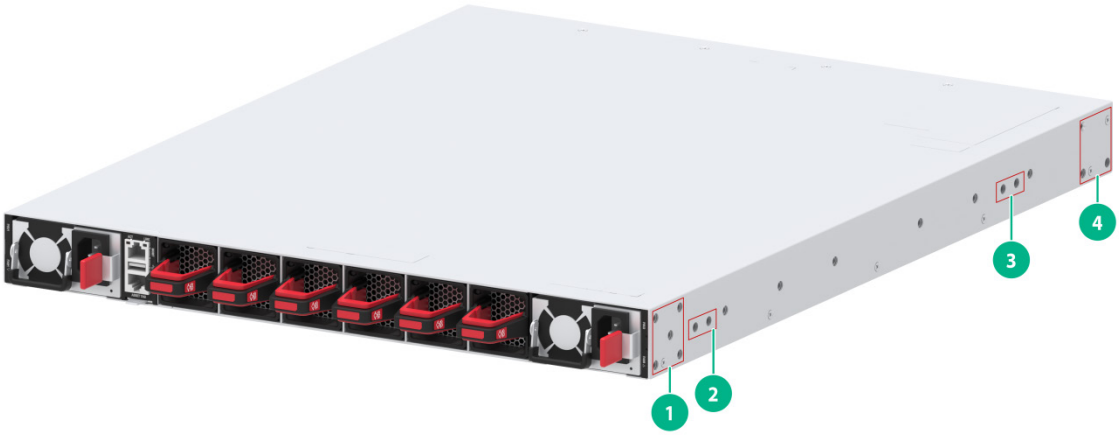
(1) Grounding point	(2) Mounting bracket installation position

Figure2-18 Mounting brackets and grounding cable installation positions on the S9855-48CD8D/S9855-24B8D/S9855-32D switch



(1) Power supply-side installation position for the mounting bracket	
(2) Primary grounding point	(3) Auxiliary grounding point
(4) Port-side installation position for the mounting bracket	

Figure2-19 Mounting brackets and grounding cable installation positions on the S9855-40B switch



(1) Power supply-side installation position for the mounting bracket	
(2) Primary grounding point	(3) Auxiliary grounding point
(4) Port-side installation position for the mounting bracket	

Attaching mounting brackets and chassis rails to the switch

IMPORTANT:

- The S9855-64D and S9825-128B switches use 2U bottom support rails for rack mounting. You are not required to attach chassis rails to it.
- M4 screws are used to attach mounting brackets and chassis rails to the switch. As a best practice, use a torque of 12 kgf-cm (1.18 Nm) to fasten M4 screws.

To attach the mounting brackets and chassis rails 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 side panel. Then use the provided M4 screws to attach the mounting bracket to the chassis.
   - To install the mounting brackets at the port-side mounting position, see Figure2-20, Figure2-21, Figure2-22, and Figure2-24.
   - To install the mounting brackets at the power supply-side mounting position, see Figure2-23 and Figure2-25.

   For the S9855-48CD8D, S9855-24B8D, and S9855-32D switches, use the four installation holes at the narrow side of the mounting brackets for installation.

   For the S9855-40B switch, use the four installation holes at the narrow side of the mounting brackets for installation.
2. Determine the installation position of the chassis rails based on the position of mounting brackets and the distance between the front and rear rack posts.

   Table2-4 Chassis rail installation position

Switch model	Mounting bracket position	Distance between the front and rear rack posts	Chassis rail installation position
S9825-64D	See Figure2-20 and Figure2-21.	630 to 900 mm	N/A

Switch model	Mounting bracket position	Distance between the front and rear rack posts	Chassis rail installation position
S9825-128B (2U bottom support rails)		(24.80 to 35.43 in)	
S9855-48CD8D S9855-24B8D S9855-32D (short slide rails)	Port-side installation position for mounting brackets, as shown in Figure2-22.	654 to 833 mm (25.75 to 32.80 in)	Position a
		589 to 768 mm (23.19 to 30.24 in)	Position b
		524 to 703 mm (20.63 to 27.68 in)	Position c
	Power supply-side installation position for mounting brackets, as shown in Figure2-23.	580 to 758 mm (22.83 to 29.84 in)	Position d
		515 to 693 mm (20.28 to 27.28 in)	Position e
		472 to 628 mm (18.58 to 24.72 in)	Position f
S9855-40B (long slide rails)	Port-side installation position for mounting brackets, as shown in Figure2-24.	680 to 938 mm (26.77 to 36.93 in)	Position a
		680 to 873 mm (26.77 to 34.37 in)	Position b
		680 to 808 mm (26.77 to 31.81 in)	Position c
	Power supply-side installation position for mounting brackets, as shown in Figure2-25.	620 to 864 mm (24.41 to 34.02 in)	Position d
		620 to 799 mm (24.41 to 31.46 in)	Position e

3. Place the chassis rail against the chassis side panel. Align the chassis rail installation holes with the screw holes. Use the provided M4 screws to attach the chassis rail to the chassis. See Figure2-22 to Figure2-25.

Figure2-20 Attaching the mounting brackets to the S9825-64D switch

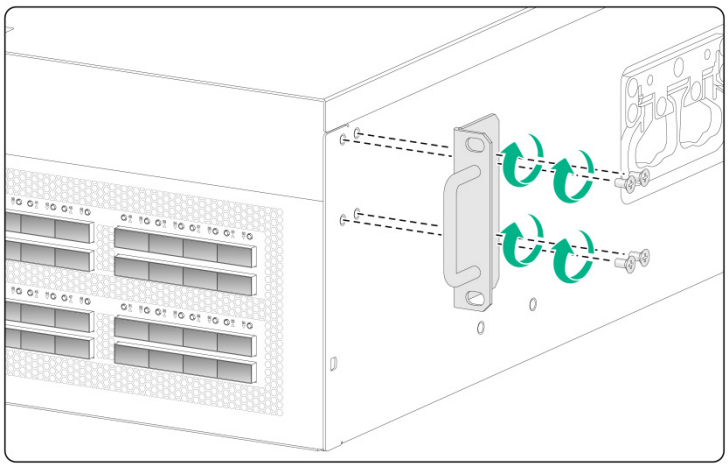


Figure2-21 Attaching the mounting brackets to the S9825-128B switch

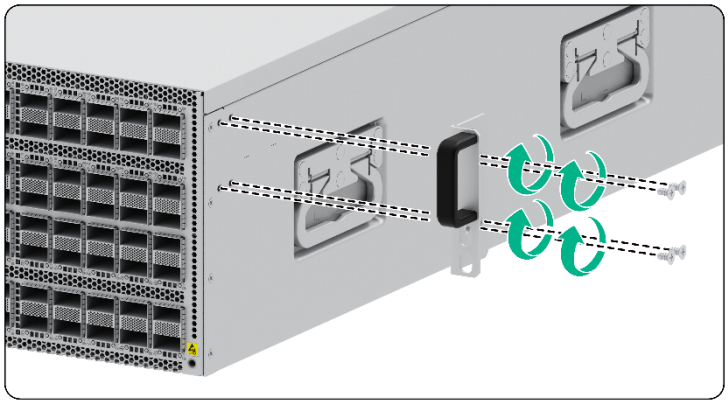


Figure2-22 Attaching the mounting brackets and chassis rails to the S9855-48CD8D/S9855-24B8D/S9855-32D switch (port-side mounting position for the mounting brackets)

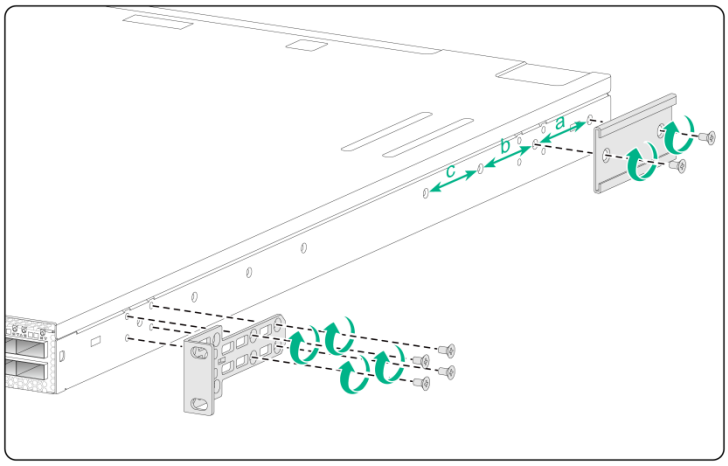


Figure2-23 Attaching the mounting brackets and chassis rails to the S9855-48CD8D/S9855-24B8DF/S9855-32D switch (power supply-side mounting position for the mounting brackets)

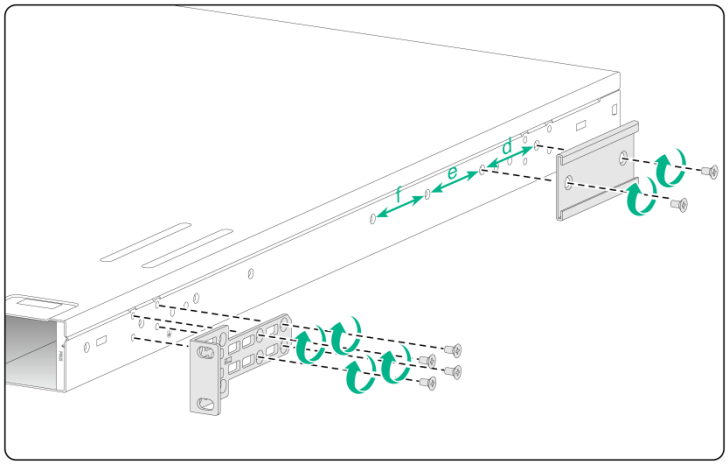


Figure2-24 Attaching the mounting brackets and chassis rails to the S9855-40B switch (port-side mounting position for the mounting brackets)

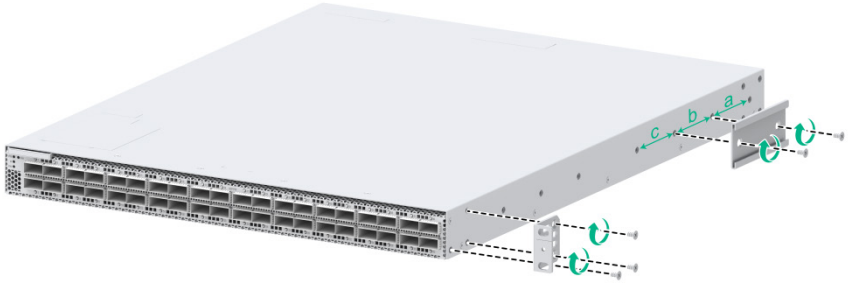
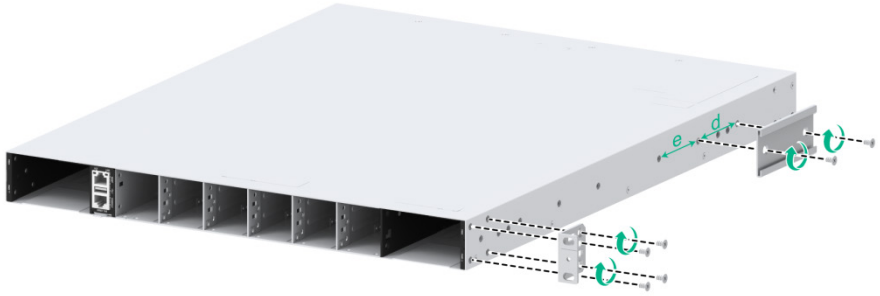


Figure2-25 Attaching the mounting brackets and chassis rails to the S9855-40B switch (power supply-side mounting position for the mounting brackets)



NOTE:

The mounting bracket and chassis rail installation procedures are the same for the left and right chassis side panels.

Connecting the grounding cable to the switch

IMPORTANT:

As a best practice, use a torque of 20 kgf-cm (1.96 Nm) to fasten the grounding screws.

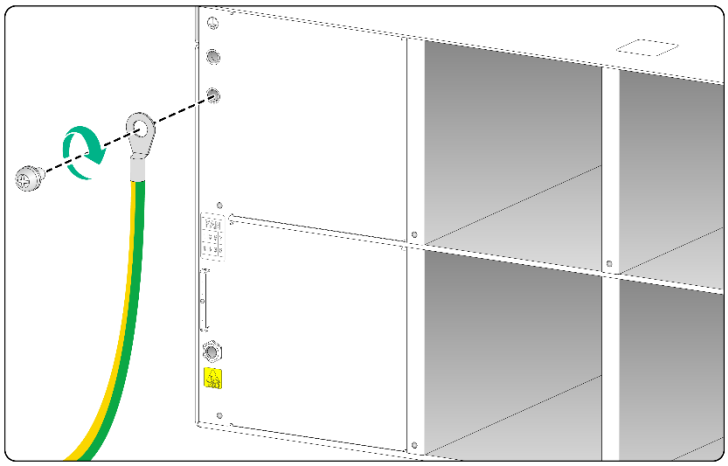
Connecting the grounding cable for the S9825-64D switch

The S9825-64D switch has one grounding point on the rear panel.

To connect the grounding cable to the S9825-64D switch:

1. Unpack the grounding cable and grounding screw.
2. Use the grounding screw to attach the ring terminal of the grounding cable to the grounding hole at the grounding point. Then use a screwdriver to fasten the screw. See Figure2-26.

Figure2-26 Connecting the grounding cable to an S9825-64D switch



Connecting the grounding cable for the S9825-128B switch

The S9825-128B switch has one grounding point on the rear panel.

To connect the grounding cable to the S9825-128B switch:

1. Unpack the grounding cable and grounding screws.
2. Use the grounding screws to attach the two-hole grounding lug of the grounding cable to the grounding holes at the grounding point. Then use a screwdriver to fasten the screws. See Figure2-27.

Figure2-27 Connecting the grounding cable to an S9825-64D switch

Connecting the grounding cable for the S9855-48CD8D/S9855-24B8D/S9855-32D/S9855-40B switch

IMPORTANT:

After the switch is mounted in the rack, the grounding points on the side panel will not be reachable. Connect the grounding cable to a grounding point before installing the switch in the rack.

The S9855-48CD8D, S9855-24B8D, S9855-32D, and S9855-40B switches each provide two grounding points: primary grounding point (with a grounding sign) and auxiliary grounding point on the left side panel.

Select the grounding point based on the mounting bracket installation positions.

- If you install the mounting brackets at the port side, connect the grounding cable to the grounding point (auxiliary) at the port side.
- If you install the mounting brackets at the power supply side, connect the grounding cable to the grounding point (primary) at the power supply side.

The grounding cable connection procedure is similar for using the primary or auxiliary grounding point. The primary grounding point is used as an example in the following figure:

1. Unpack the grounding cable and grounding screw.
2. Use the grounding screw to attach the ring terminal of the grounding cable to the grounding hole at the grounding point. Then use a screwdriver to fasten the screw. See Figure2-28 and Figure2-29.

Figure2-28 Connecting the grounding cable to an S9855-48CD8D/S9855-24B8D/S9855-32D switch

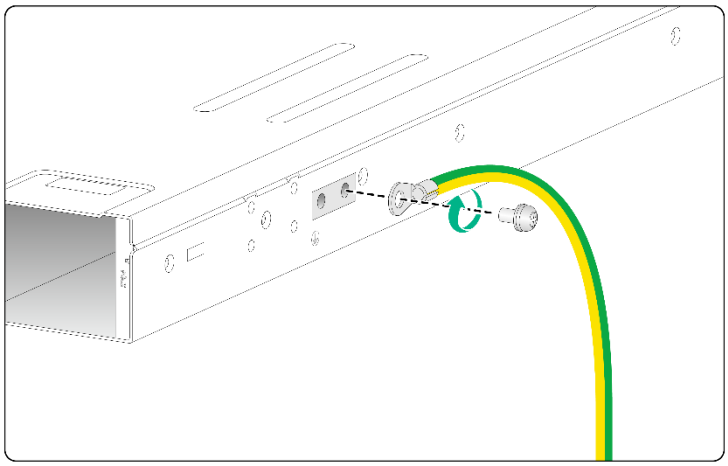
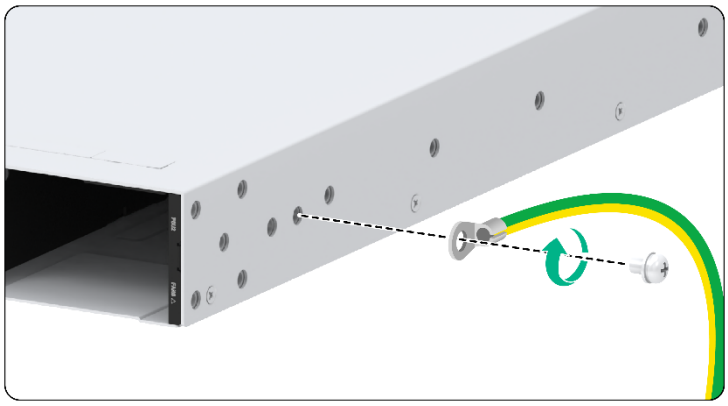


Figure2-29 Connecting the grounding cable to an S9855-40B switch



Rack-mounting the switch

Attaching slide rails or bottom support rails to the rack

IMPORTANT:

M6 screws and cage nuts are used to attach slide rails or bottom support rails to the rack. Prepare M6 screws and cage nuts yourself. As a best practice, use a torque of 30 kgf-cm (2.94 Nm) to fasten the M6 screws.

Before mounting the switch in the rack, you must attach slide rails or bottom support rails to the rack.

To attach slide rails or bottom support rails to the rack:

1. Identify the installation position of the slide rails and bottom support rails on the rack based on the switch installation position.
2. Attach cage nuts (user-supplied) to the mounting holes in the rack posts.
3. (Applicable to the 1U slide rails.) Align the screw holes in one slide rail with the cage nuts in a rear rack post, and then use M6 screws (user-supplied) to attach the slide rail to the rack, as shown in Figure2-30.
4. (Applicable to the bottom support rails.) Align the screw holes in the two ends of a bottom support rail with the cage nuts in the front and rear rack posts, and then use M6 screws (user-supplied) to attach the slide rail to the rack, as shown in Figure2-31.
5. Attach the other slide rail or bottom support rail to the other rear rack post.

   Make sure the two slide rails or bottom support rails are at the same height.

Figure2-30 Installing the 1U slide rails

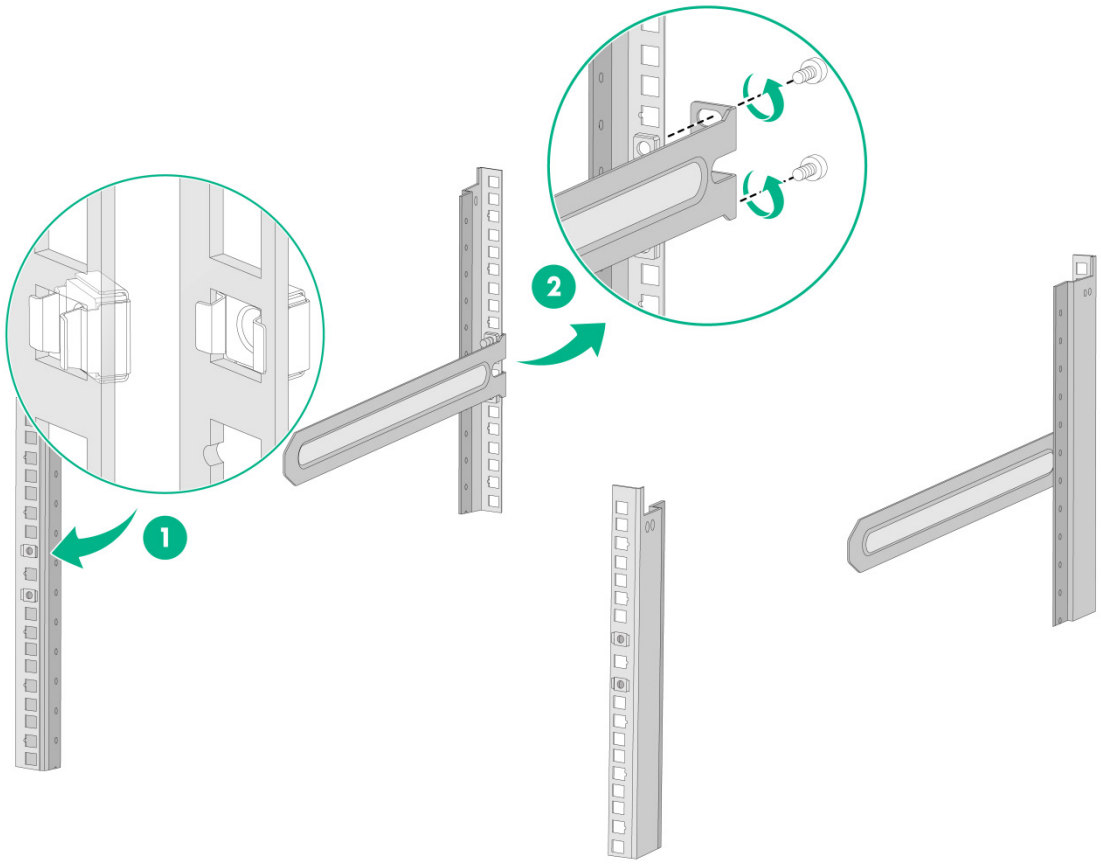
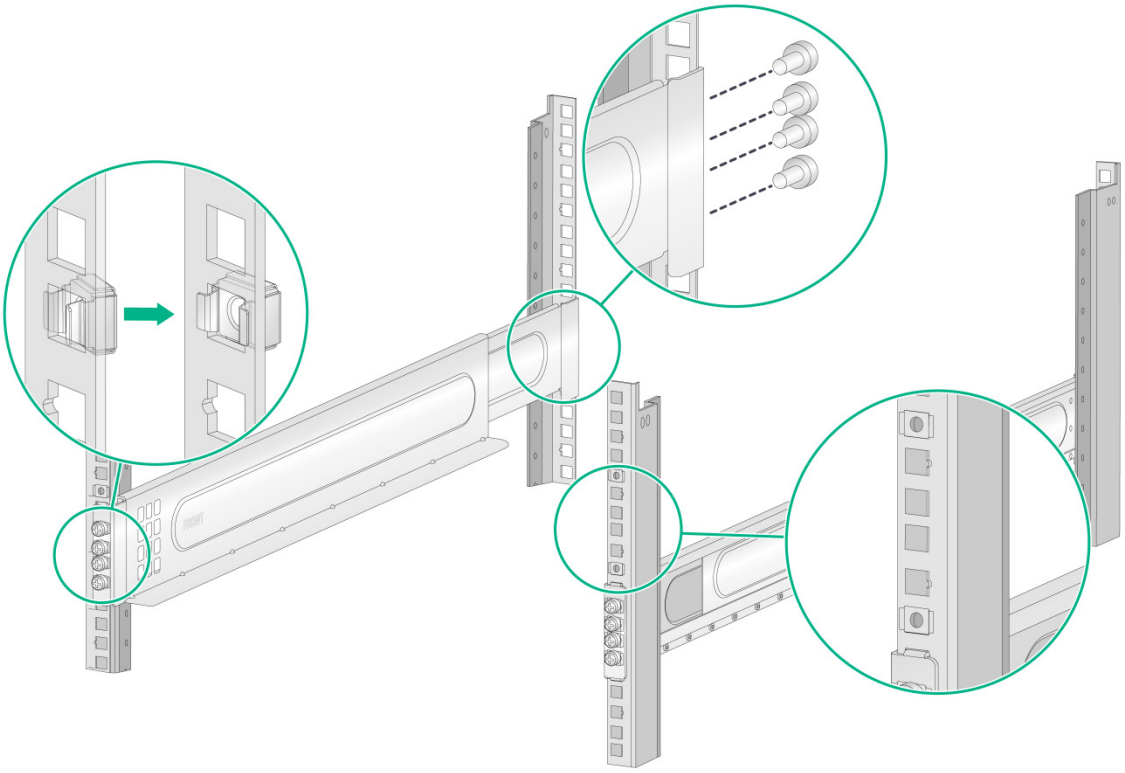


Figure2-31 Installing the bottom support rails



Mounting 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 chassis rails have been securely attached to the switch chassis.
3. Verify that the slide rails or bottom support rails have been correctly attached to the rear rack posts.
4. Attach cage nuts (user-supplied) to the front rack posts and make sure they are at the same level as the slide rails or bottom support rails.
5. (Applicable to the S9855-48CD8D, S9855-24B8D, S9855-32D, and S9855-40B switches) One person performs the following operations:
   a. Supporting the bottom of the switch, aligns the chassis rails with the slide rails on the rack posts.
   b. Pushes the switch slowly for the slide rails to smoothly slide into the chassis rails until the mounting brackets are flush against the front rack posts. To ensure installation security, make sure the slide rails slide out of the chassis rails a minimum of 20 mm (0.79 in).
6. (Applicable to the S9825-64D and S9825-128B switches) One person places the switch on the bottom support rails attached to the rack. Then push the switch slowly into the rack until the mounting brackets are flush against the front rack posts.
7. The other person uses M6 screws (user-supplied, rust-proofed) to attach the mounting brackets to the rack. Make sure the switch is installed level and secure.

   As a best practice, use a torque of 30 kgf-cm (2.94 Nm) to fasten the M6 screws.

Figure2-32 Mounting an S9825-64D switch in the rack

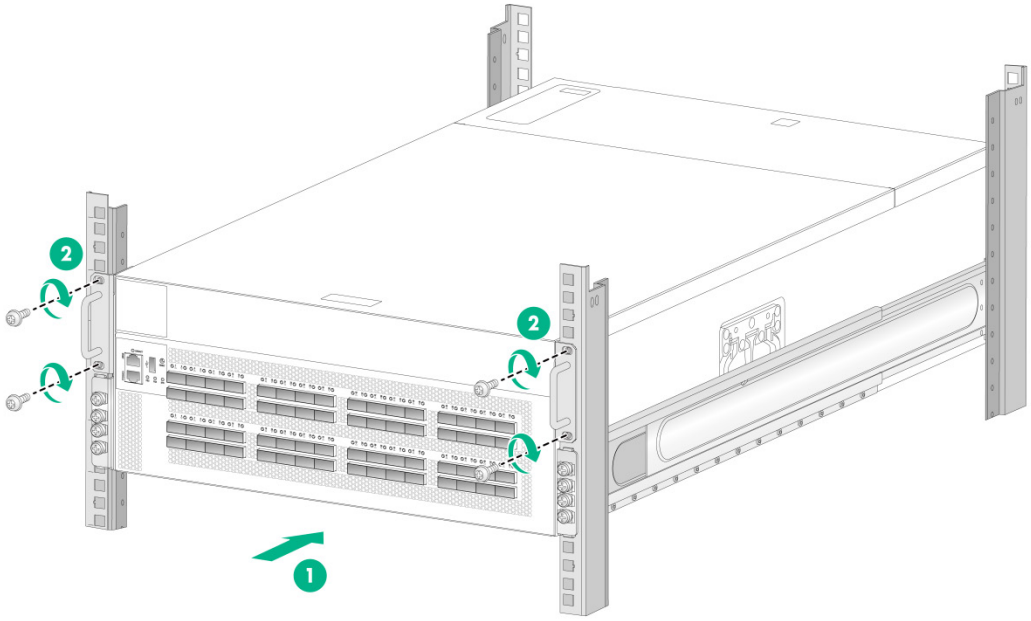


Figure2-33 Mounting an S9825-128B switch in the rack

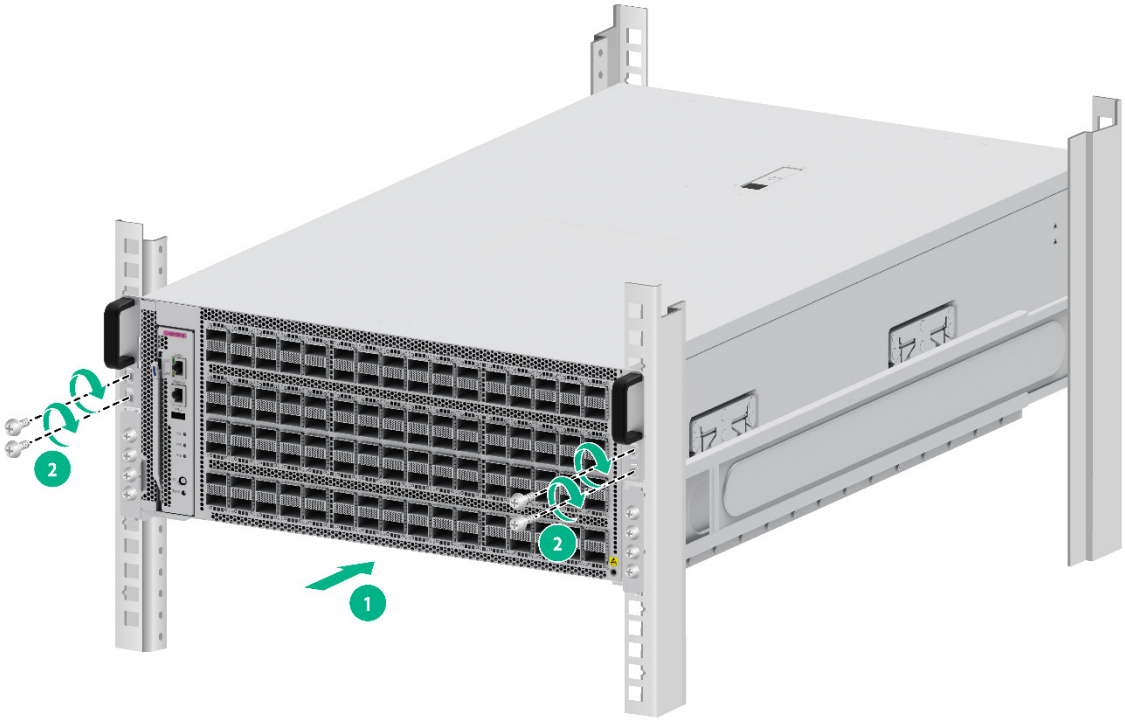


Figure2-34 Mounting an S9855-48CD8D switch in the rack (mounting brackets installed at the port side)

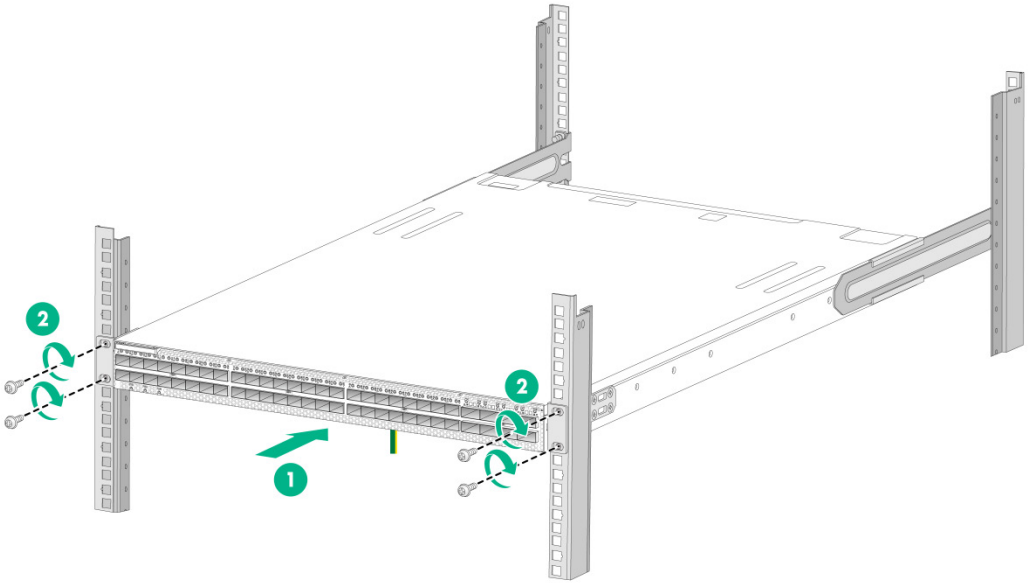


Figure2-35 Mounting an S9855-24B8D switch in the rack (mounting brackets installed at the port side)

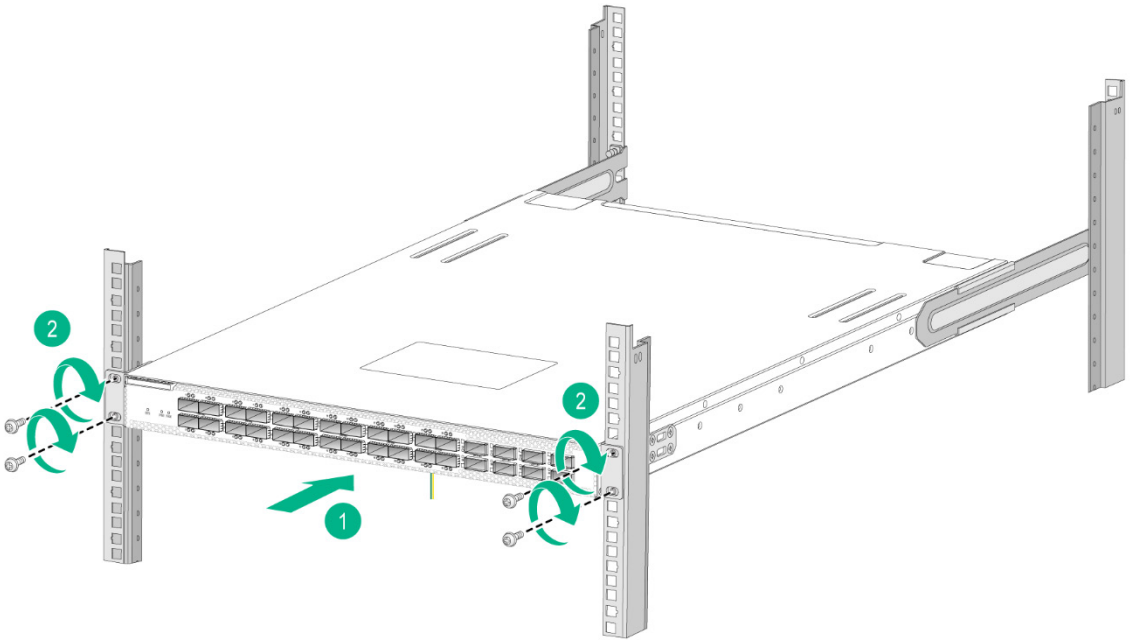


Figure2-36 Mounting an S9855-32D switch in the rack (mounting brackets installed at the port side)

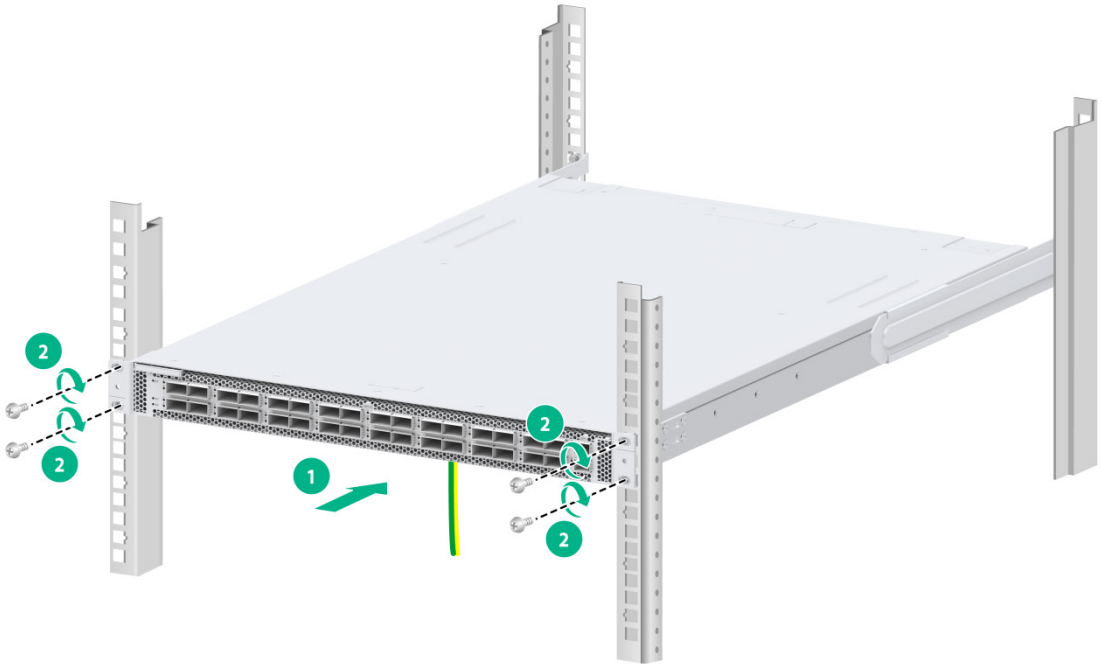


Figure2-37 Mounting an S9855-48CD8D/S9855-24B8D/S9855-32D switch in the rack (mounting brackets installed at the power supply side)

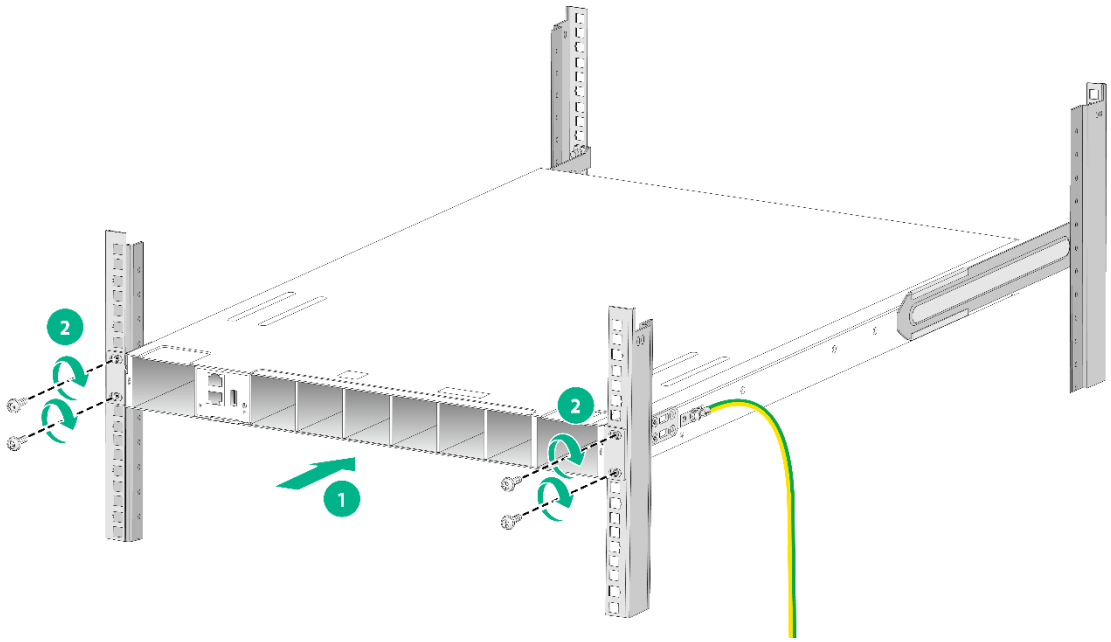


Figure2-38 Mounting an S9855-40B switch in the rack (mounting brackets installed at the port side)

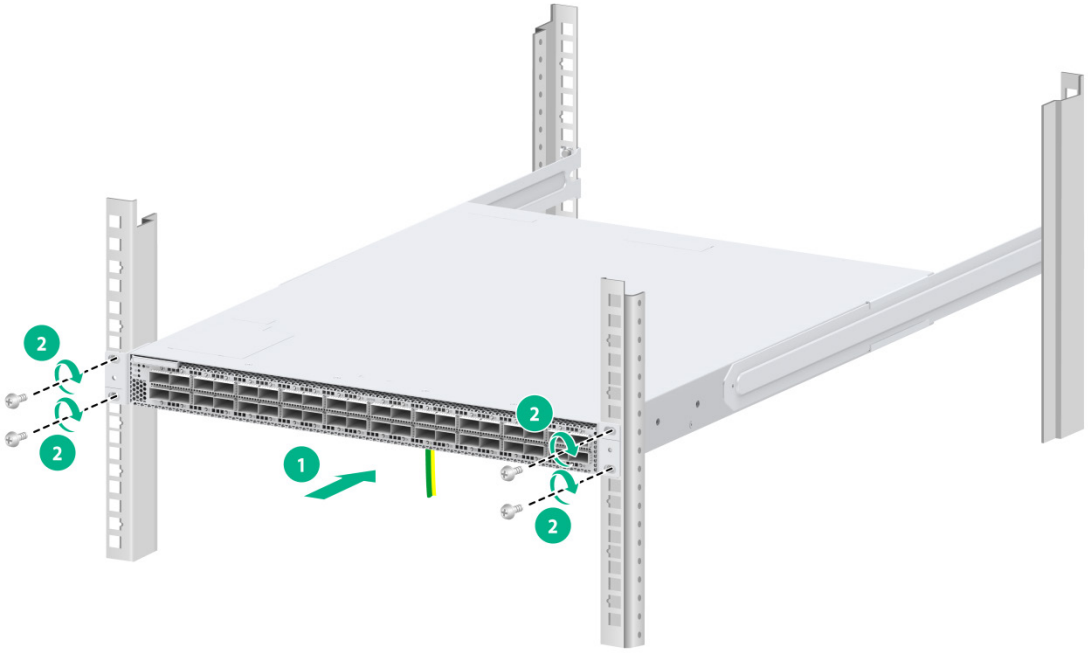
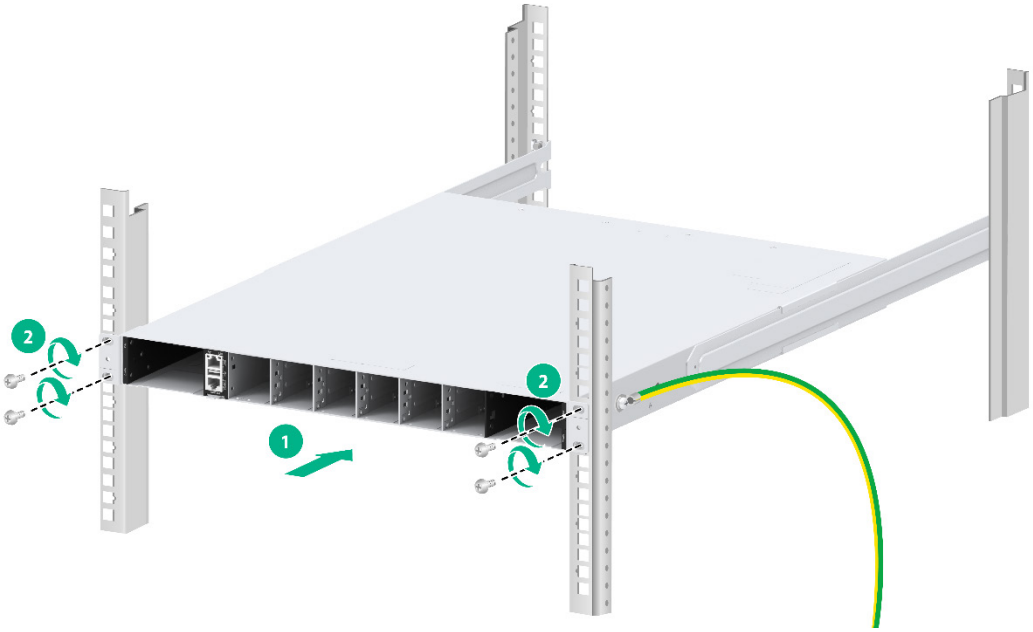


Figure2-39 Mounting an S9855-40B switch in the rack (mounting brackets installed at the power supply side)



Grounding the switch

WARNING!

- Correctly connecting the grounding cable is crucial to lightning protection and EMI protection. Make sure you connect the grounding cable for the switch correctly.
- Connect the grounding cable to the grounding system in the equipment room. Do not connect it to a fire main or lightning rod.

CAUTION:

- To guarantee the grounding effect, connect the switch to a grounding strip in the equipment room by using the grounding cable provided with the switch.
- To protect the switch from lighting strikes, see *H3C Network Devices Lighting Protection Guide*.

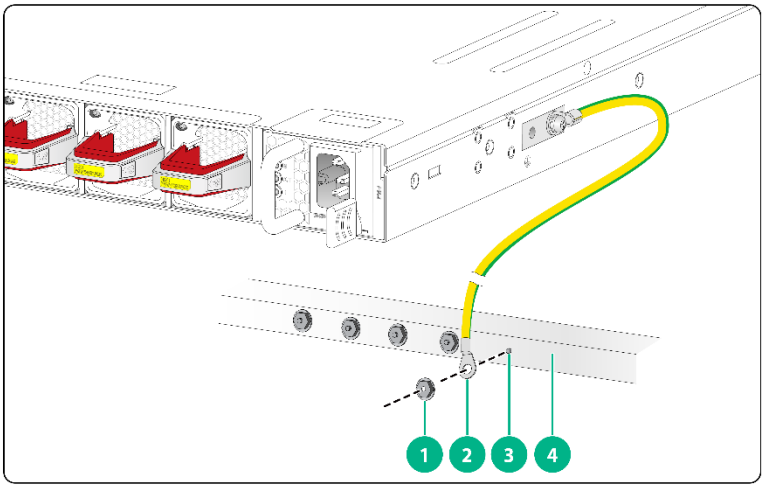
The power input end of the switch has a noise filter, whose central ground is directly connected to the chassis to form the chassis ground (commonly known as PGND). You must securely connect this chassis ground to the earth to minimize the potential for system damage, maximize the safety at the site, and minimize EMI susceptibility of the system.

You can ground a switch by using a grounding strip at the installation site.

To ground the switch by using a grounding strip:

1. Attach the two-hole grounding lug of the grounding cable to the grounding point on the chassis. For more information, see "Connecting the grounding cable to the switch."
2. Remove the hex nut of a grounding post on the grounding strip.
3. Attach the ring terminal at the other end of the grounding cable to the grounding post on the grounding strip, and use the hex nut to secure the ring terminal to the grounding post.

Figure2-40 Connecting the grounding cable to a grounding strip



(1) Hex nut	(2) Ring terminal
(3) Grounding post	(4) Grounding strip

NOTE:

The grounding terminal position in the figure is for illustration only.

Installing/removing fan modules

CAUTION:

The switch has multiple fan module slots. For adequate heat dissipation, follow these guidelines:

- The switch can operate correctly with five fan modules. You can install six fan modules for 5+1 redundancy.
- Make sure each slot has a module or filler panel installed when the switch is operating.
- If multiple fan modules fail on the operating switch, do not remove the fan modules at the same time. Replace the fan modules one after another and finish replacing a fan module within 3 minutes.

Select fan modules compatible with the switch. For the optional fan modules and their specifications, see *H3C S9825 & S9855 Switch Series Hardware Information and Specifications*.

Installing a fan module

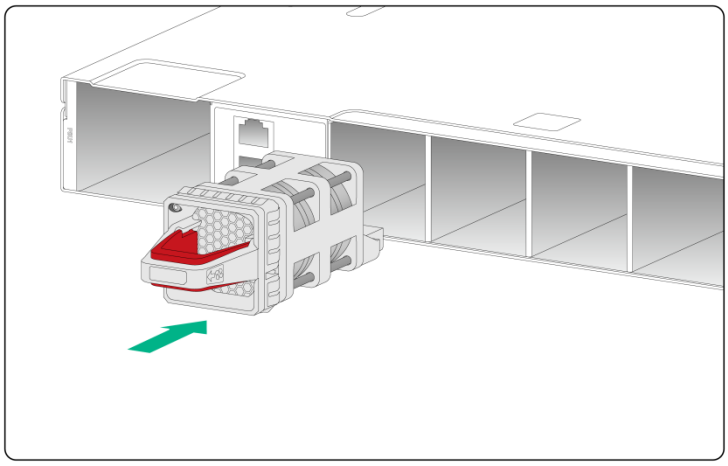
CAUTION:

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

To install a fan module:

1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.
2. Unpack the fan module and verify that the fan module model is correct.
3. Orient the fan module with the connector facing downwards. Pressing the red part of the handle with one hand and supporting the fan module bottom with the other, slide the fan module along the guide rails into the slot until the fan module is fully seated in the slot and has a firm contact with the backplane.

Figure2-41 Installing a FAN-40B-1-C fan module on an S9855-48CD8D switch



NOTE:

The installation methods for the FAN-40B-1-H, FAN-40F-1-D, and FAN-40B-1-C fan modules are the same.

Figure2-42 Installing a FAN-80B-1-B fan module

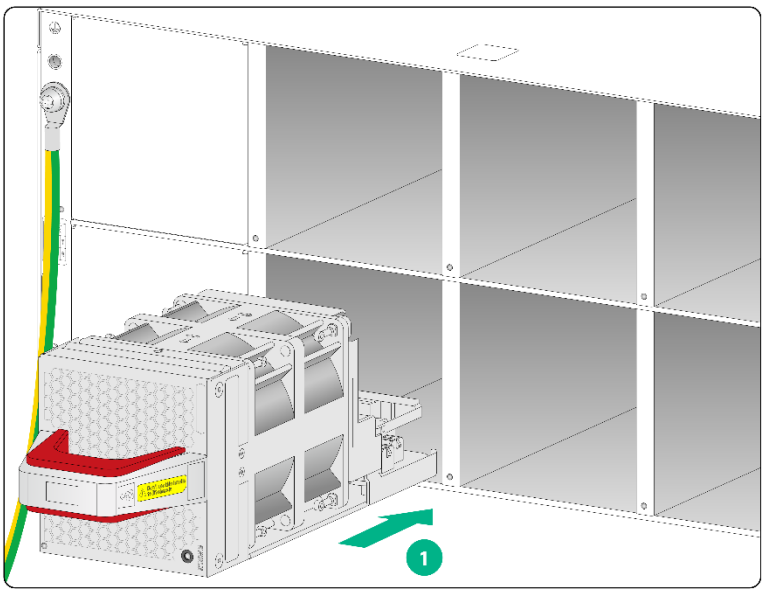


Figure2-43 Installing an LSWM1FANSD-SN fan module

Removing a fan module

WARNING!

- Ensure electricity safety and never touch the rotating fans when you hot-swap a fan module.
- To prevent a fan from causing loud noise, do not touch the fan blades and rotation axis, even if the fan is not rotating.

To remove a fan module:

1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.
2. Orient the fan module with the connector facing downwards. Pressing the red part of the handle with one hand, pull the fan module part way out of the slot. Supporting the fan module bottom with the other, pull the fan module completely out of the slot along the guide rails.

3. Put the removed fan module in an antistatic bag.

Figure2-44 Removing a FAN-40B-1-C/FAN-40B-1-H/FAN-40F-1-D fan module

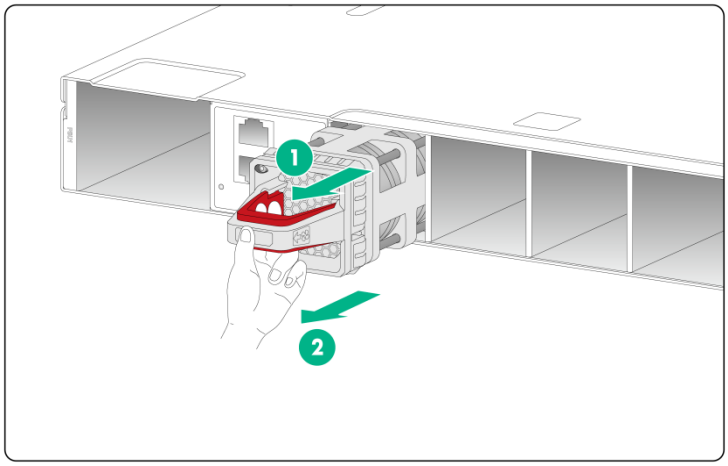


Figure2-45 Removing a FAN-80B-1-B fan module

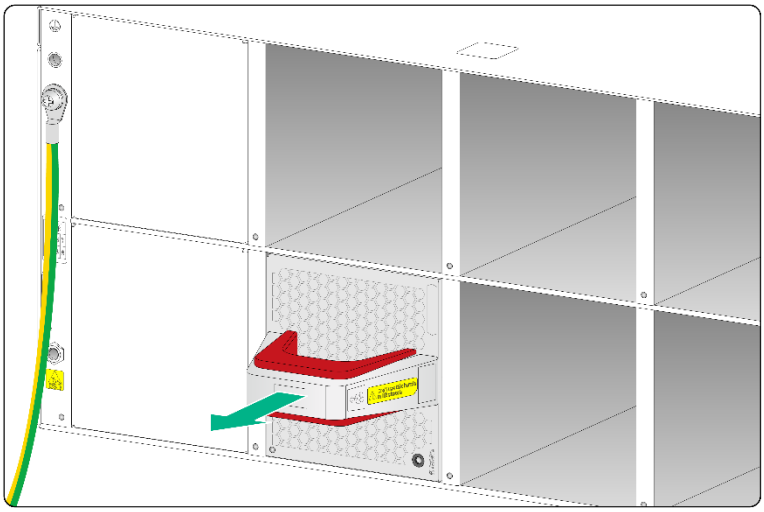
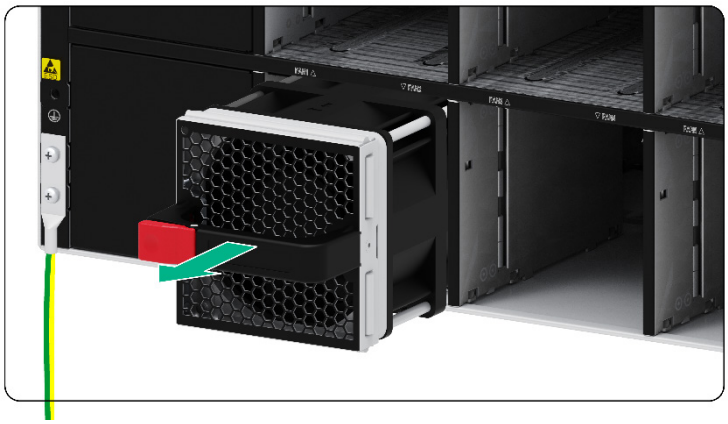


Figure2-46 Removing an LSWM1FANSD-SN fan module



Installing and removing power supplies

WARNING!

- To avoid bodily injury or device damage, strictly follow the procedures in Figure2-47 and Figure2-48 to install and remove a power supply.
- Provide a separate circuit breaker for each power supply.

CAUTION:

Make sure each slot has a filler panel or module installed when the switch is operating.

The S9855-48CD8D, S9855-24B8D, S9855-40B, and S9855-32D switches each have two power supply slots. The S9825-64D and S9825-128B switches each have four power supply slots.

The PSR1600C-12A-B, PSR1300-12A-C-B, PSR1300-12A-C-A, and PSR2400B-12D-B power supplies are available for the switch..

Figure2-47 Power supply installation procedure

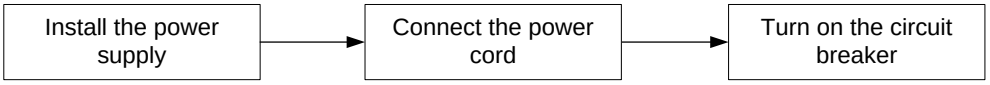
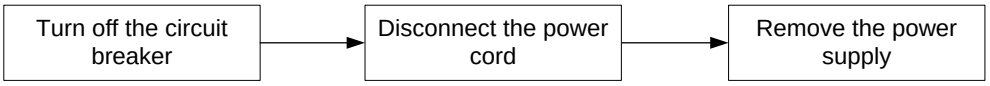


Figure2-48 Power supply removal procedure



Installing a power supply

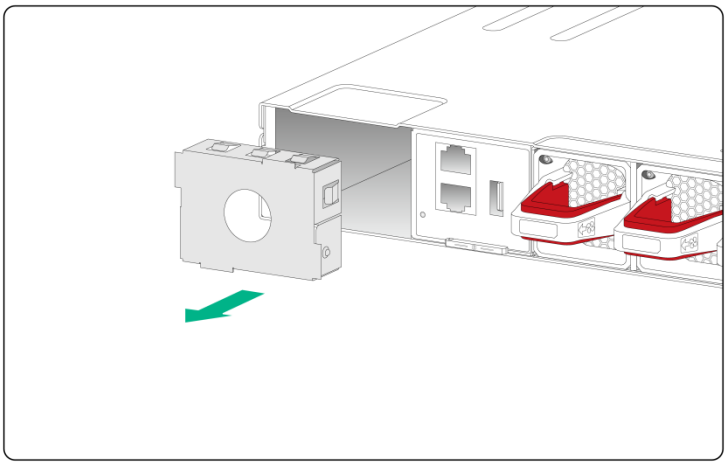
Installing a PSR1600C-12A-B power supply

The power supply installation procedure is the same for the switches. The S9855-48CD8D switch is used as an example in the following figures.

To install a PSR1600C-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, if any, from the target power supply slot, as shown in Figure2-49.

Figure2-49 Removing the filler panel



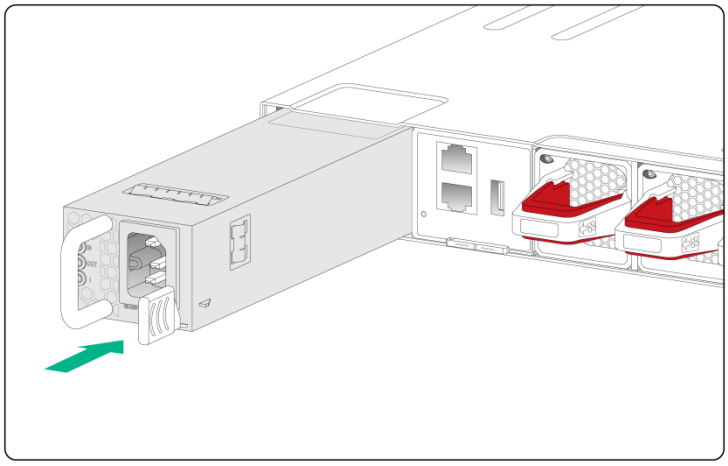
3. Unpack the power supply and verify that the power supply model is correct.
4. Correctly orient the power supply with the lettering on it upward. Grasping the power supply handle with one hand and supporting the power supply bottom with the other, slide the power supply slowly into the slot along the guide rails.

   Follow the forward inertia of the power supply when inserting it into the chassis, and make sure the power supply has firm contact with the connectors on the backplane.

CAUTION:

The power supply and the slot form an anti-misalignment structure. If you insert the power supply into the slot upside down or the power supply is not aligned with the slot correctly, you will encounter a hard resistance. If this happens, pull out the power supply, orient it correctly, and then insert it again. Do not insert the power supply forcibly.

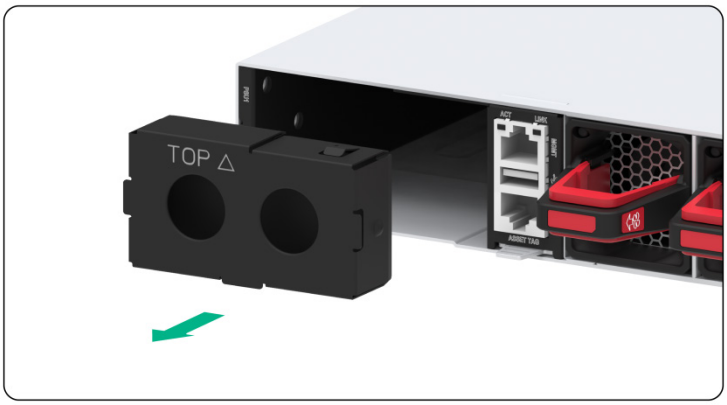
Figure2-50 Installing a PSR1600C-12A-B power supply



Installing a PSR1300-12A-C-B/PSR1300-12A-C-A 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, if any, from the target power supply slot, as shown in Figure2-51.

Figure2-51 Removing the filler panel



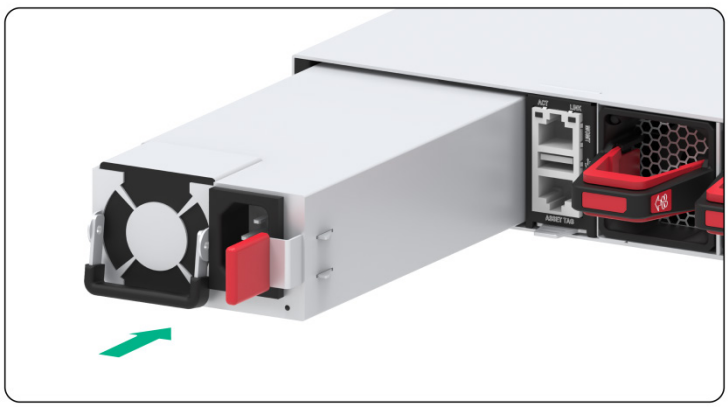
3. Unpack the power supply and verify that the power supply model is correct.
4. Correctly orient the power supply with the lettering on it upward. Grasping the power supply handle with one hand and supporting the power supply bottom with the other, slide the power supply slowly into the slot along the guide rails.

   Follow the forward inertia of the power supply when inserting it into the chassis, and make sure the power supply has firm contact with the connectors on the backplane.

△ CAUTION:

The power supply and the slot form an anti-misalignment structure. If you insert the power supply into the slot upside down or the power supply is not aligned with the slot correctly, you will encounter a hard resistance. If this happens, pull out the power supply, orient it correctly, and then insert it again. Do not insert the power supply forcibly.

Figure2-52 Installing a PSR1300-12A-C-B/PSR1300-12A-C-A power supply



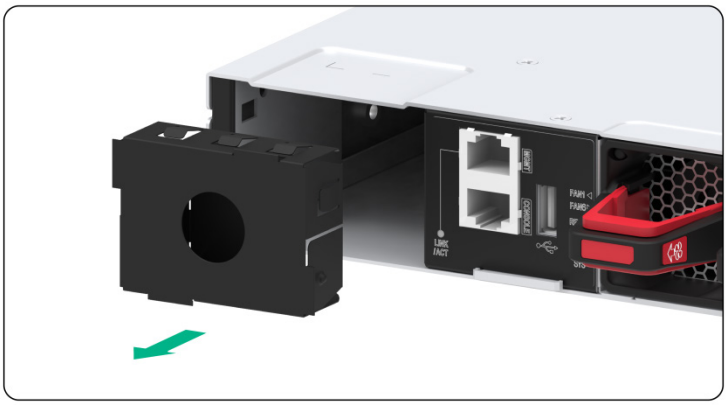
Installing a PSR2400B-12D-B power supply

The power supply installation procedure is the same for the switches. The S9855-32D switch is used as an example in the following figures.

To install a PSR2400B-12D-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, if any, from the target power supply slot, as shown in Figure2-53.

Figure2-53 Removing the filler panel



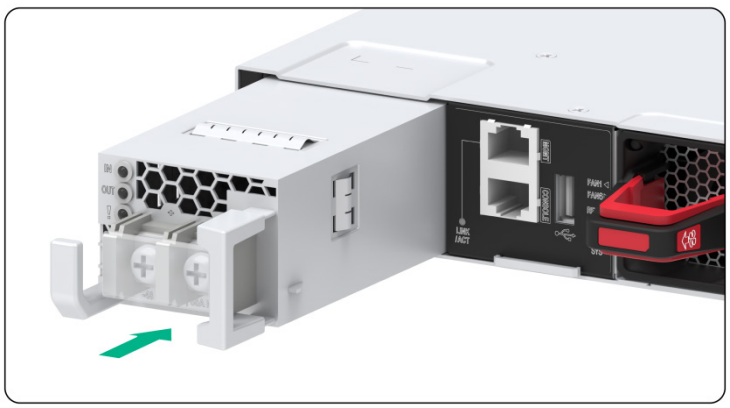
3. Unpack the power supply and verify that the power supply model is correct.
4. Correctly orient the power supply with the lettering on it upward. Grasping the power supply handle with one hand and supporting the power supply bottom with the other, slide the power supply slowly into the slot along the guide rails.

   Follow the forward inertia of the power supply when inserting it into the chassis, and make sure the power supply has firm contact with the connectors on the backplane.

CAUTION:

The power supply and the slot form an anti-misalignment structure. If you insert the power supply into the slot upside down or the power supply is not aligned with the slot correctly, you will encounter a hard resistance. If this happens, pull out the power supply, orient it correctly, and then insert it again. Do not insert the power supply forcibly.

Figure2-54 Installing a PSR2400B-12D-B power supply



Removing a power supply

CAUTION:

- When the S9855-48CD8D, S9855-48CD8D, S9855-40B, S9855-32D switch has two power supplies operating in 1+1 redundancy mode, removing one power supply does not affect the operation of the switch. When the switch has only one power supply present, removing the power supply causes power down of the switch.
- When the S9825-64D switch has power supplies operating in 2+1 or 2+2 redundancy mode, removing one or two power supplies does not affect the operation of the switch. When the switch has only two power supplies present, removing power supply might cause power down of the switch or power insufficiency.

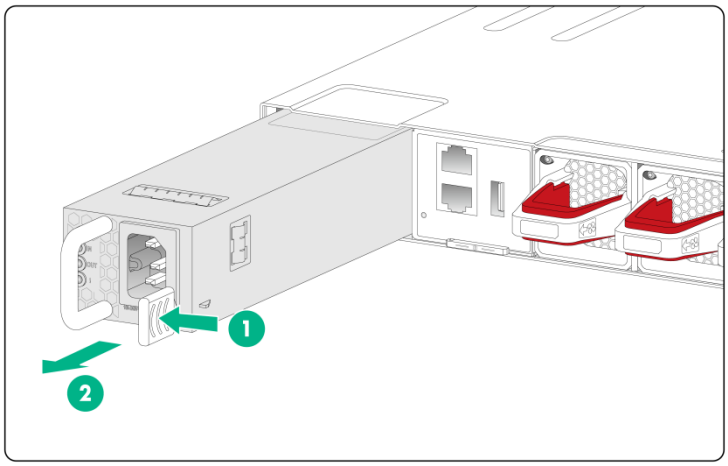
Removing a PSR1600C-12A-B power supply

The power supply removal procedure is the same for the switches. The S9855-48CD8D switch is used as an example in the following figures.

To remove a PSR1600C-12A-B power supply:

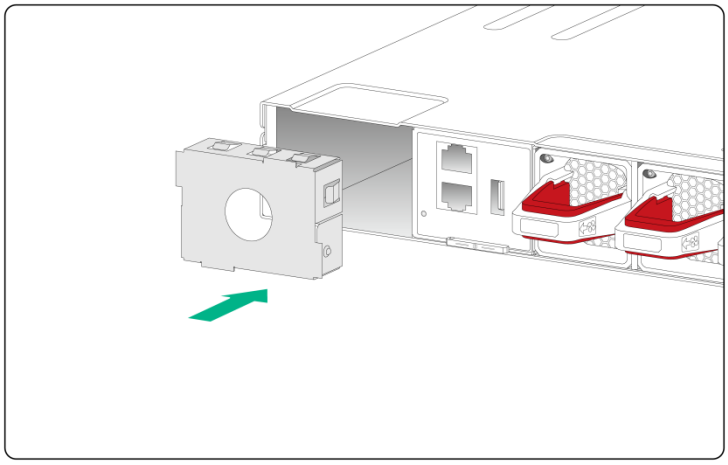
1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.
2. Remove the power cord from the power supply.
3. As shown in Figure2-55, use one hand to hold the power supply handle, press the latch towards the handle, and then pull the power supply part way out of the slot. Supporting the power supply with the other hand, pull it completely out of the slot.
4. Put the removed power supply in an antistatic bag for future use.
5. If you are not to install a new power supply, install a filler panel in the slot to ensure good ventilation in the switch. See Figure2-56.

Figure2-55 Removing a PSR1600C-12A-B power supply



(1) Use the thumb to press the latch towards the handle (2) Pull the power supply out

Figure2-56 Installing a filler panel

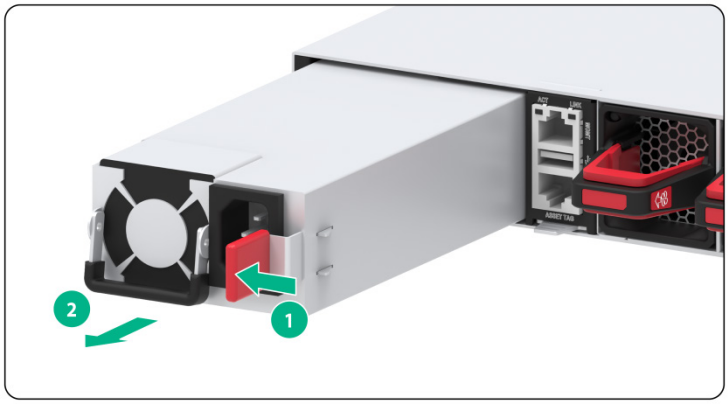


Removing a PSR1300-12A-C-B/PSR1300-12A-C-A power supply

The removal methods are the same for the PSR1300-12A-C-B and PSR1300-12A-C-A power supplies. This section uses the S9855-40B switch as an example.

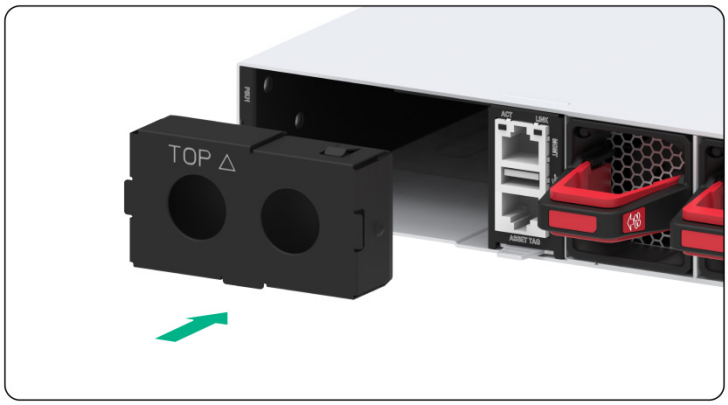
1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.
2. Remove the power cord from the power supply.
3. As shown in Figure2-57, use one hand to hold the power supply handle, press the latch towards the handle, and then pull the power supply part way out of the slot. Supporting the power supply with the other hand, pull it completely out of the slot.
4. Put the removed power supply in an antistatic bag for future use.
5. If you are not to install a new power supply, install a filler panel in the slot to ensure good ventilation in the switch. See Figure2-58.

Figure2-57 Removing a PSR1300-12A-C-B/PSR1300-12A-C-A power supply



(1) Use the thumb to press the latch towards the handle	(2) Pull the power supply out

Figure2-58 Installing a filler panel



Removing a PSR2400B-12D-B power supply

To remove a PSR2400B-12D-B power supply:

1. Wear an ESD wrist strap and make sure it makes good skin contact and is reliably grounded.
2. Remove the power cord from the power supply.
3. As shown in Figure2-59, use one hand to hold the power supply handle, press the latch towards the handle, and then pull the power supply part way out of the slot. Supporting the power supply with the other hand, pull it completely out of the slot.
4. Put the removed power supply in an antistatic bag for future use.
5. If you are not to install a new power supply, install a filler panel in the slot to ensure good ventilation in the switch. See Figure2-60.

Figure2-59 Removing a PSR2400B-12D-B power supply

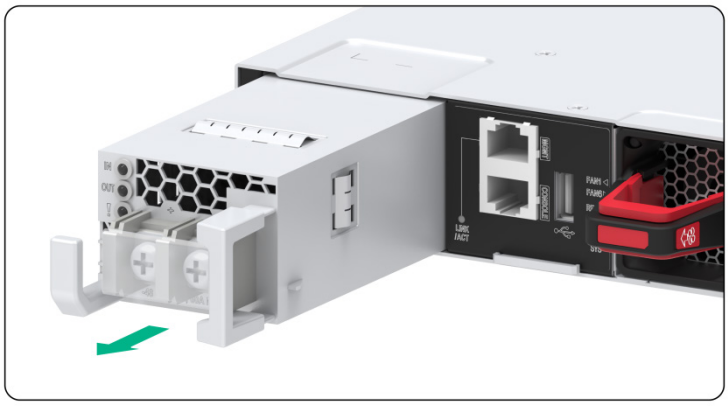
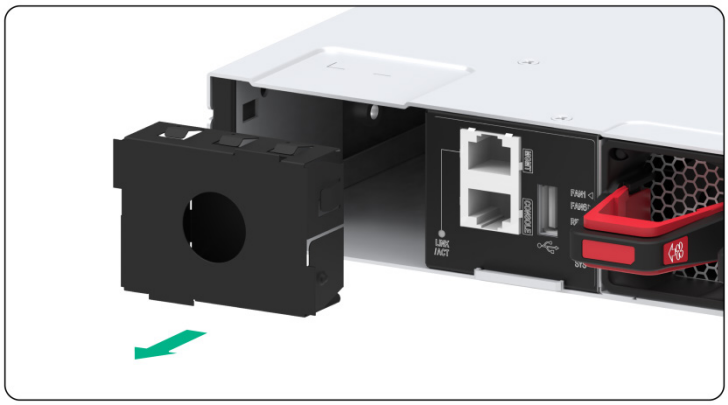


Figure2-60 Installing a filler panel



Connecting power cords

WARNING!

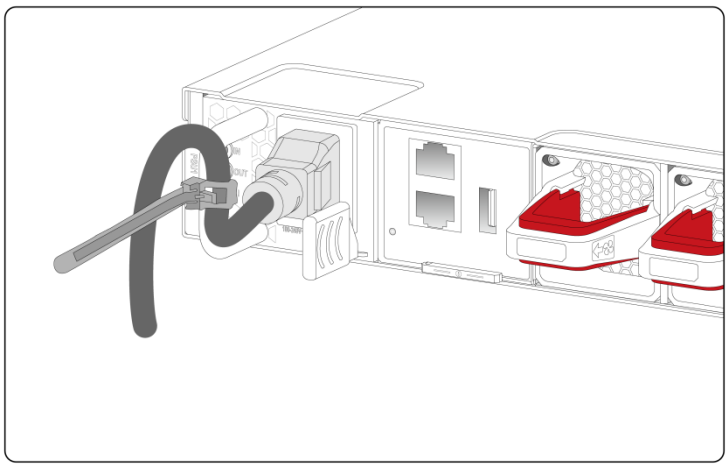
- Make sure each power cord has a separate circuit breaker.
- Before you connect a power cord, make sure the circuit breaker for the power cord is switched off.

Connecting an AC power cord

Connecting the AC power cord for a PSR1600C-12A-B power supply

1. Insert the female connector of the AC power cord supplied with the power supply into the power receptacle on the power supply.
2. Use a releasable cable tie to secure the power cord to the handle of the power supply, as shown in Figure2-61.
3. Connect the other end of the power cord to an AC power source.

Figure2-61 Connecting the AC power cord for a PSR1600C-12A-B power supply



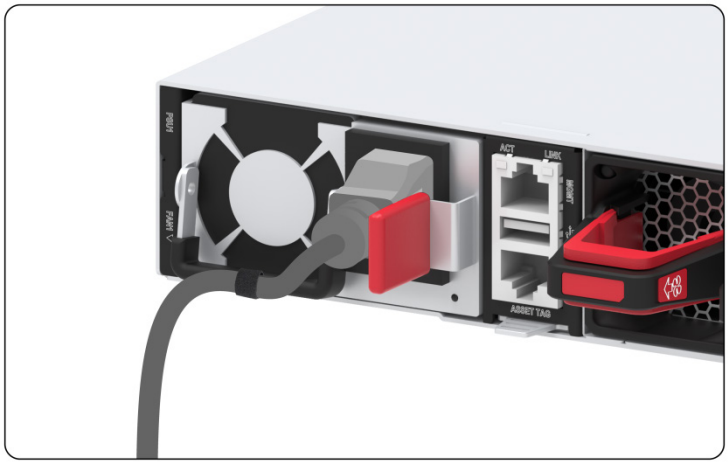
(1) Releasable cable tie

(1) Releasable cable tie
(2) Lock the cable tie to secure the power cord to the handle of the power supply

Connecting the AC power cord for a PSR1300-12A-C-B/PSR1300-12A-C-A power supply

1. Insert the female connector of the AC power cord supplied with the power supply into the power receptacle on the power supply.
2. Use a Velcro strap to secure the power cord to the handle of the power supply, as shown in Figure2-62.
3. Connect the other end of the power cord to an AC power source.

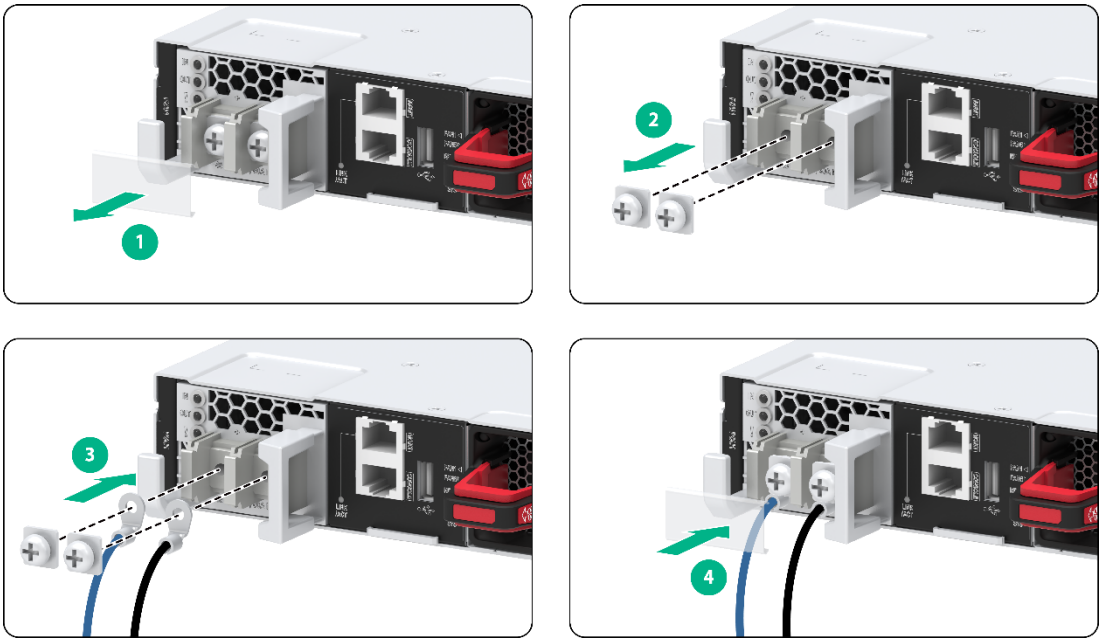
Figure2-62 Connecting the AC power cord for a PSR1300-12A-C-B/PSR1300-12A-C-A power supply



Connecting a DC power cord

1. As shown by callout 1 in Figure2-63, remove the protection cover from the power supply.
2. As shown by callout 2 in Figure2-63, use a Phillips screwdriver to loosen the screws on the wiring terminals.
3. As shown by callout 3 in Figure2-63, connect the end of the DC power cord marked with – to the negative terminal (–) on the power supply and fasten the screw. Connect the end of the DC power cord marked with + to the positive terminal (+) on the power supply and fasten the screw.
4. As shown by callout 4 in Figure2-63, put the protection cover on the wiring terminals.

Figure2-63 Connecting the DC power cord for a PSR2400B-12D-B power supply



Verifying the installation

After you complete the installation, verify the following items:

- There is enough space around the switch for heat dissipation.
- The rack is sturdy and stable.
- The grounding cable is securely connected.
- The power supplies are as required by the switch.
- The power cords are correctly connected.
- To prevent signal ports from getting damaged by overvoltage or overcurrent caused by lightning strikes, route interface cables only indoors.

IMPORTANT:

For information about how to protect the switch from lightning strikes, see *H3C Network Devices Lightning Protection Guide*.

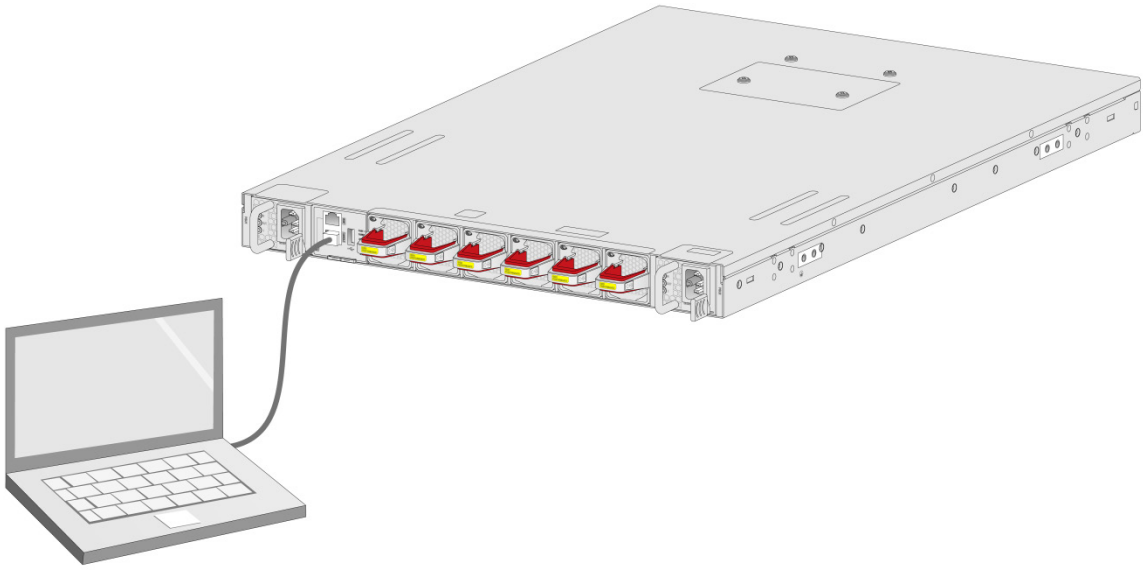
3 Accessing the switch for the first time

Connecting the switch to a configuration terminal

The switch came with a serial console cable. You can use the serial console cable to connect the serial console port on the switch 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 from the serial console port



Connecting the serial console cable

CAUTION:

- 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 serial console cable is an 8-core 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 Serial console cable

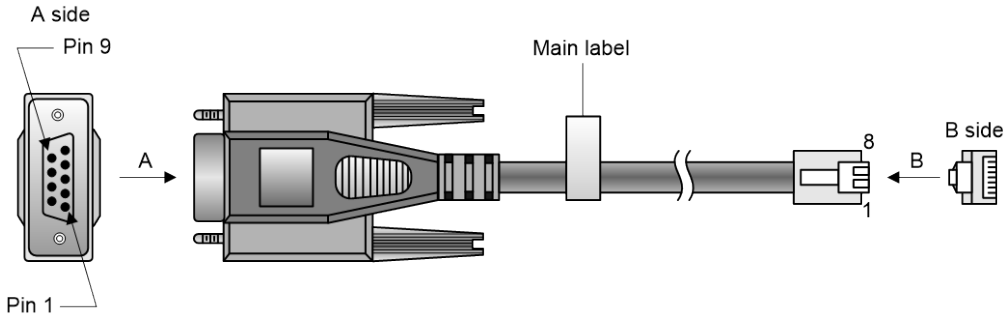


Table3-1 Console port signaling and pinout

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 serial console port on the switch to a terminal (for example, a PC):

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

Setting terminal parameters

To configure and manage the switch through the console port, you must run a terminal emulator program, TeraTermPro or PuTTY, 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

The following are the required terminal settings:

- **Bits per second**—9600.
- **Data bits**—8.
- **Stop bits**—1.
- **Parity**—None.
- **Flow control**—None.

Powering on the switch

1. Before powering on the switch, verify that the following conditions are met:
   - All the fan module slots have a fan module installed.
   - The power cords are connected correctly.

- The input power voltage is as required by the switch.
- The console cable is connected correctly.
- The configuration terminal (a PC, for example) has started, and its serial port settings are consistent with the console port settings on the switch.

2. Power on the switch.

During the startup process, you can access BootWare menus to perform tasks such as software upgrade and file management. The BootWare interface and menu options vary by software version. For more information about BootWare menu options, see the software-matching release notes for the device.

3. After the startup completes, you can access the CLI to configure the switch.

For more information about the configuration commands and CLI, see *H3C S9825 & S9855 Switch Series Configuration Guides* and *H3C S9825 & S9855 Switch Series Command References*.

4 Maintenance and troubleshooting

Power supply failure

You can determine whether a power supply is faulty by observing the status LEDs on the power supply. For more information about the status LEDs on a PSR1600C-12A-B power supply, see *H3C PSR1600C-12A-B Power Module User Manual*. For more information about the status LED on a PSR1300-12A-C-B, PSR1300-12A-C-A, or PSR2400B-12D-B power supply, see *H3C S9825 & S9855 Switch Series Hardware Information and Specifications*.

Symptom

The status LED on a power supply is not steady green.

Solution

To resolve the issue:

1. Verify that the power cord is connected correctly.
2. Verify that the power source is as required by the switch.
3. Verify that the operating temperature of the switch is in the acceptable range and adequate ventilation is available for the power supply.
4. If the issue persists, contact H3C Support.

To replace a power supply, see "Installing and removing power supplies."

Fan module failure

CAUTION:

The switch has six fan module slots. If multiple fan modules fail when the switch is operating, do not remove the fan modules at the same time. Replace the fan modules one after another and finish replacing a fan module within 3 minutes.

Symptom

The status LED on the fan module is steady red and the system outputs a fan module alarm message.

Solution

See "Installing/removing fan modules" to replace the fan module. If the issue persists, contact H3C Support.

Configuration terminal display issues

No output

Symptom

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

Solution

To resolve the issue:

1. Verify that the power system is operating correctly.
2. Verify that the console cable is connected correctly.
3. Verify that the console cable does not have any problems and the terminal settings are correct.
4. If the issue persists, contact H3C Support.

Garbled output

Symptom

The output of the configuration terminal is garbled.

Solution

To resolve the issue:

1. Verify that configuration terminal settings are correct:
   - **Baud rate**—9600.
   - **Data bits**—8.
   - **Parity**—None.
   - **Stop bits**—1.
   - **Flow control**—None.
2. If the issue persists, contact H3C Support.