



Installing the Chassis

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Safety

Before you install, operate, or service the switch, see the *Regulatory, Compliance, and Safety Information for the Cisco Nexus 3000 and 9000 Series* for important Safety Information.



Warning **Statement 1071**—Warning Definition

IMPORTANT SAFETY INSTRUCTIONS

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.

SAVE THESE INSTRUCTIONS



**Warning Statement 1017**—Restricted Area

This unit is intended for installation in restricted access areas. A restricted access area can be accessed by skilled, instructed or qualified personnel.

**Warning Statement 1030**—Equipment Installation

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

Installation Options with Rack-Mount Kits, Racks, and Cabinets

The rack-mount kit enables you to install the switch into racks of varying depths. You can position the switch with easy access to either the port connections or the fan and power supply modules.

You can install the switch using the following 1 (RU) rack-mount options:

- Rack-mount kit (NXK-ACC-KIT-1RU) which you can order from Cisco. This option offers you easy installation, greater stability, increased weight capacity, added accessibility, and improved removability with front and rear removal.
- Rack-mount kit (N3K-C3064-ACC-KIT) which you can order from Cisco.

You can install the switch using the following 2 (RU) rack-mount options:

- Rack-mount kit (NXK-ACC-RMK-2RU) which you can order from Cisco. This option offers you easy installation, greater stability, increased weight capacity, added accessibility, and improved removability with front and rear removal.
- Rack-mount kit (N9K-C9300-RMK) which you can order from Cisco.

You can install the switch in the following types of racks:

- Open EIA rack
- Perforated EIA cabinet

The rack or cabinet that you use must meet the requirements listed the in [General Requirements and Guidelines for Cabinets and Racks](#) section.



Note You are responsible for verifying that your rack and rack-mount hardware comply with the guidelines that are described in this doc.

Preparing to Install the Chassis

Before you can install the switch, you must verify the following:

- The installation site meets the following requirements as stated in Chapter 2:
 - Environmental requirements for temperature, humidity, altitude, and air particulates.
 - Cabinet or rack is installed and meets the requirements for the switch.



Note Jumper power cords are available for use in a cabinet.

- The rack is positioned so that you can install the switch with its cold air intakes positioned in a cold aisle.

If the fan and power supply modules are burgundy or red colored, you must install the chassis with its port side in a cold aisle. If the modules are blue colored, you must be able to install the chassis with the fan modules in a cold aisle.

- Earth ground connection is close to the switch. You must be able to easily connect the switch directly to an earth ground or indirectly through a grounded rack.



Warning High leakage current. Earth connection essential before connecting to power supply.

- Site power meets the switch requirements. If you are using n+n redundancy, you must have two power sources within reach of the switch when it is installed in the cabinet or rack.

If available, you can use an uninterruptible power supply (UPS) to protect against power failures.



Caution Avoid UPS types that use ferroresonant technology. These UPS types can become unstable with systems such as the Cisco Nexus 3000 Series switches. These switches can have substantial current draw fluctuations because of fluctuating data traffic patterns.

Ensure that circuits are sized according to local and national codes. For North America, the power supply requires a 15-A or 20-A circuit.



Caution To prevent loss of input power, ensure the total maximum loads on the circuits supplying power to the switch are within the current ratings for the wiring and breakers.



Warning Statement 1005—Circuit Breaker

When AC or HVAC power supply is used:

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective devices is rated not greater than 20A (North America), 16A (Europe), and 13A (UK).

When HVDC power supply is used:

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective devices is rated not greater than 10A.

- There is adequate clearance around the rack to install the switch and to allow for unimpeded airflow.
- You have the following equipment in addition to the switch and the kits shipped with the switch:
 - Eight customer-supplied 12-24 or 10-32 screws (required for attaching slider rails and mounting bracket to the mounting rails)
 - Number 1 and number 2 Phillips screwdrivers with torque capability
 - 3/16-inch flat-blade screwdriver
 - Tape measure and level
 - ESD wrist strap or other grounding device (wrist strap can be found in the accessory kit)
 - Antistatic surface large enough to place the switch
 - Grounding cable (6 AWG recommended), sized according to local and national installation requirements; the required length depends on the proximity of the switch to proper grounding facilities
 - Crimping tool large enough to accommodate the girth of the grounding lug
 - Wire stripping tool

Unpacking and Inspecting the Chassis



Caution When handling switch components, such as fan or power supply modules, wear a grounded ESD strap and handle the modules by their carrier edges only. To ground the ESD strap, make sure that it is attached to an earth ground, a grounded chassis, or a grounded rack.



Tip Keep the shipping container in case the chassis requires shipping in the future.



Note The switch is thoroughly inspected before shipment. If any damage occurred during transportation or any items are missing, contact your customer service representative immediately.

To inspect the switch, follow these steps:

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- Step 1** Compare the shipment to the equipment list provided by your customer service representative and verify that you have received all items.
- Step 2** Check for damage and report any discrepancies or damage to your customer service representative. Have the following information ready:
- Invoice number of shipper (see the packing slip)
 - Model and serial number of the damaged unit
 - Description of damage
 - Effect of damage on the installation
 - Photos of the damaged shipping containers and damaged product
- Step 3** For dual direction airflow switches, check to be sure that all of the fan and power supply modules have the same airflow direction.
- Port-side intake airflow direction indicated with burgundy coloring
 - Port-side exhaust airflow direction indicated with blue coloring
-

Installing a 1 (RU) Chassis in a Four-Post Rack

This section describes the rack installation for the Cisco Nexus 3000 series switch into a four-post rack.

Installing the Switch Using the NXK-ACC-KIT-1RU Rack-Mount Kit

To install the switch, you must attach front and rear mounting brackets to the switch, install slider rails on the rear of the rack, slide the switch onto the slider rails, and secure the switch to the front of the rack. Typically, the front of the rack is the side easiest to access for maintenance.



Note You must supply the eight 10-32 or 12-24 screws required to mount the slider rails and switch to the rack.

Before you begin

- You have inspected the switch shipment to ensure that you have everything ordered.
- Make sure that the switch rack-mount kit includes the following parts:

- Front rack-mount brackets (2)
 - Rear rack-mount brackets (2)
 - Slider rails (2)
 - M4 x 0.7 x 8-mm Phillips countersink screws (12)
- The rack is installed and secured to its location.

Step 1

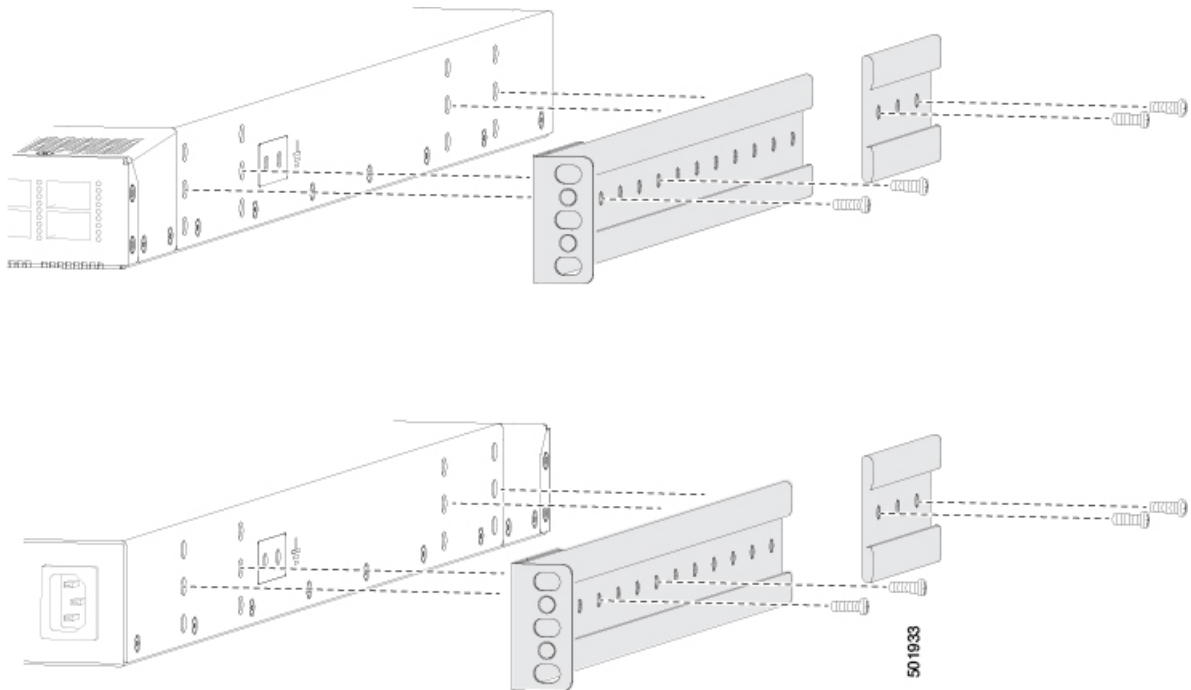
Install two front rack-mount brackets and the two rear rack-mount brackets to the switch as follows:

a) Determine which end of the chassis is to be located in the cold aisle as follows:

- If the switch has port-side intake modules (fan modules with burgundy coloring), position the switch so that its ports will be in the cold aisle.
- If the switch has port-side exhaust modules (fan modules with blue coloring), position the switch so that its fan and power supply modules will be in the cold aisle.

b) Position the front rack-mount bracket and the rear rack-mount bracket so that its screw holes are aligned to the screw holes on the side of the chassis.

Note You can align the holes in the rack-mount bracket to the holes on the side of the chassis (see the two ways to mount these brackets on a typical chassis, in following figure). The holes that you use depend on the requirements of your rack and the amount of clearance required for interface cables (3 inches [7.6 mm] minimum) and module handles (1 inch [2.5 mm] minimum).



c) Secure the front-mount bracket and the back-mount bracket to the chassis using four M4 screws and tighten each screw to 12 in-lb (1.36 N·m) of torque.

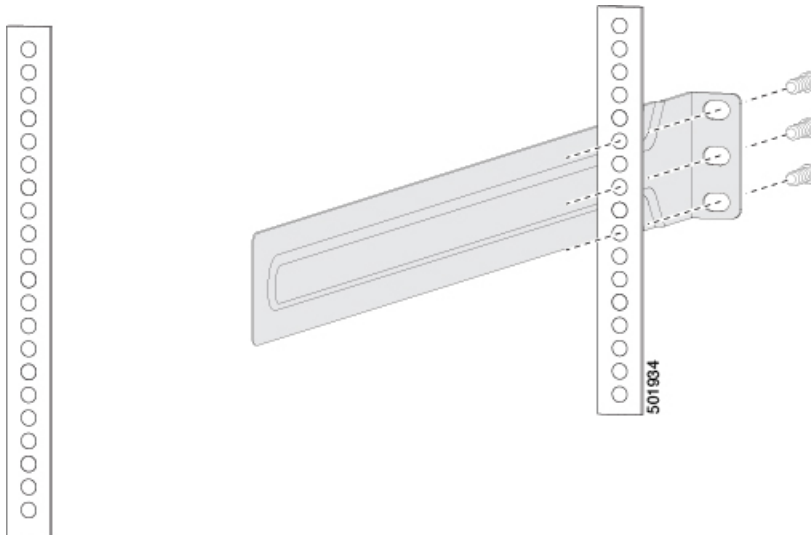
- d) Repeat Step 1 for the other front rack-mount bracket and the other back-mount bracket on the other side of the switch and be sure to position that bracket the same distance from the front of the switch.

Note Depending on the chassis depth, the back rack-mount bracket may not fit. In that case the back rack-mount bracket is not needed.

Step 2 If you are not installing the chassis into a grounded rack, you must attach a customer-supplied grounding wire to the chassis as explained in the [Grounding the Chassis, on page 28](#) section. If you are installing the chassis into a grounded rack, you can skip this step.

Step 3 Install the slider rails on the rack or cabinet as follows:

- Determine which two posts of the rack or cabinet you should use for the slider rails. Of the four vertical posts in the rack or cabinet, two will be used for the front mount brackets attached to the easiest accessed end of the chassis, and the other two posts will have the slider rails.
- Position a slider rail at the desired level on the back side of the rack and use 12-24 screws or 10-32 screws, depending on the rack thread type, to attach the rails to the rack (see the following figure). Tighten 12-24 screws to 30 in-lb (3.39 N·m) of torque and tighten 10-32 screws to 20 in-lb (2.26 N·m) of torque.

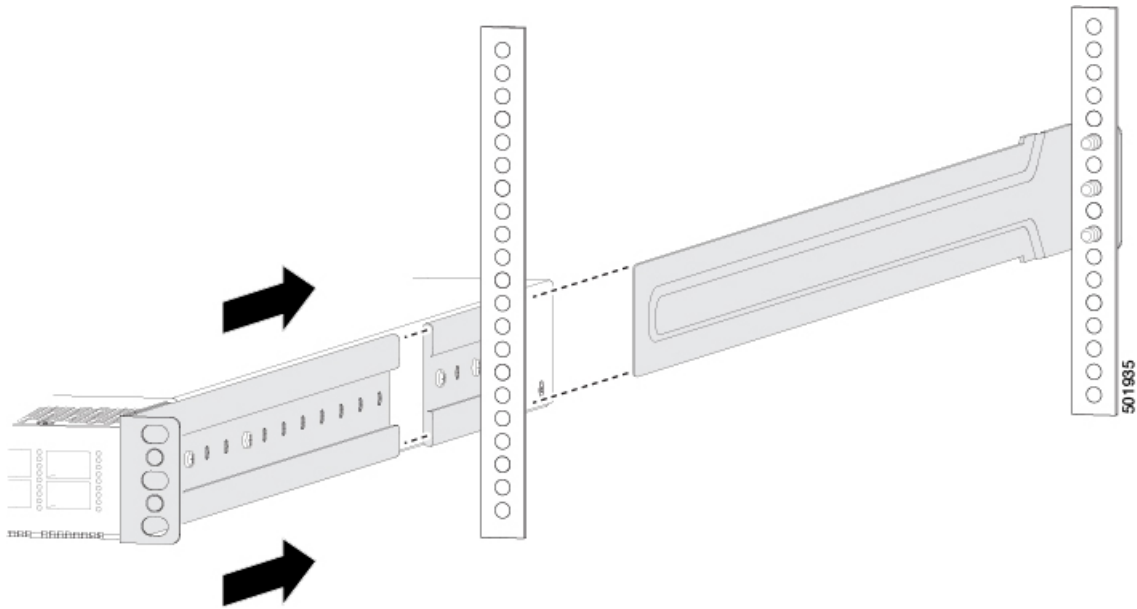


- c) Repeat Step 3 to attach the other slider rail to the other side of the rack.

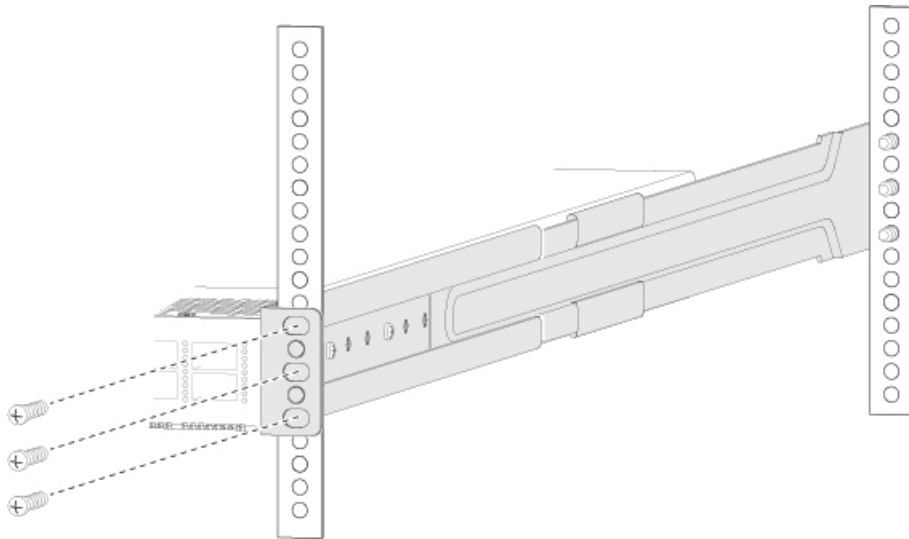
To make sure that the slider rails are at the same level, you should use a level tool, tape measure, or carefully count the screw holes in the vertical mounting rails.

Step 4 Insert the switch into the rack and attach it as follows:

- Holding the switch with both hands, position the two rear rack-mount brackets on the switch between the rack or cabinet posts that do not have slider rails attached to them (see the following figure).



- b) Align the two rear rack-mount guides on either side of the switch with the slider rails installed in the rack. Slide the rack-mount guides onto the slider rails, and then gently slide the switch all the way into the rack until the front rack-mount brackets come in contact with two rack or cabinet posts.
- c) Holding the chassis level, insert screws (12-24 or 10-32, depending on the rack type) in each of the two front rack-mount brackets (using a total of six screws) and into the cage nuts or threaded holes in the vertical rack-mounting rails (see the following figure).



- d) Tighten the 10-32 screws to 20 in-lb (2.26 N·m) or tighten the 12-24 screws to 30 in-lb (3.39 N·m).

Step 5

If you attached a grounding wire to the chassis grounding pad, connect the other end of the wire to the facility ground.

Installing the Switch Using the N3K-C3064-ACC-KIT Rack-Mount Kit

To install the switch, you must attach front and rear mounting brackets to the switch, install slider rails on the rear of the rack, slide the switch onto the slider rails, and secure the switch to the front of the rack. Typically, the front of the rack is the side easiest to access for maintenance.



Note You must supply the eight 10-32 or 12-24 screws required to mount the slider rails and switch to the rack.

Before you begin

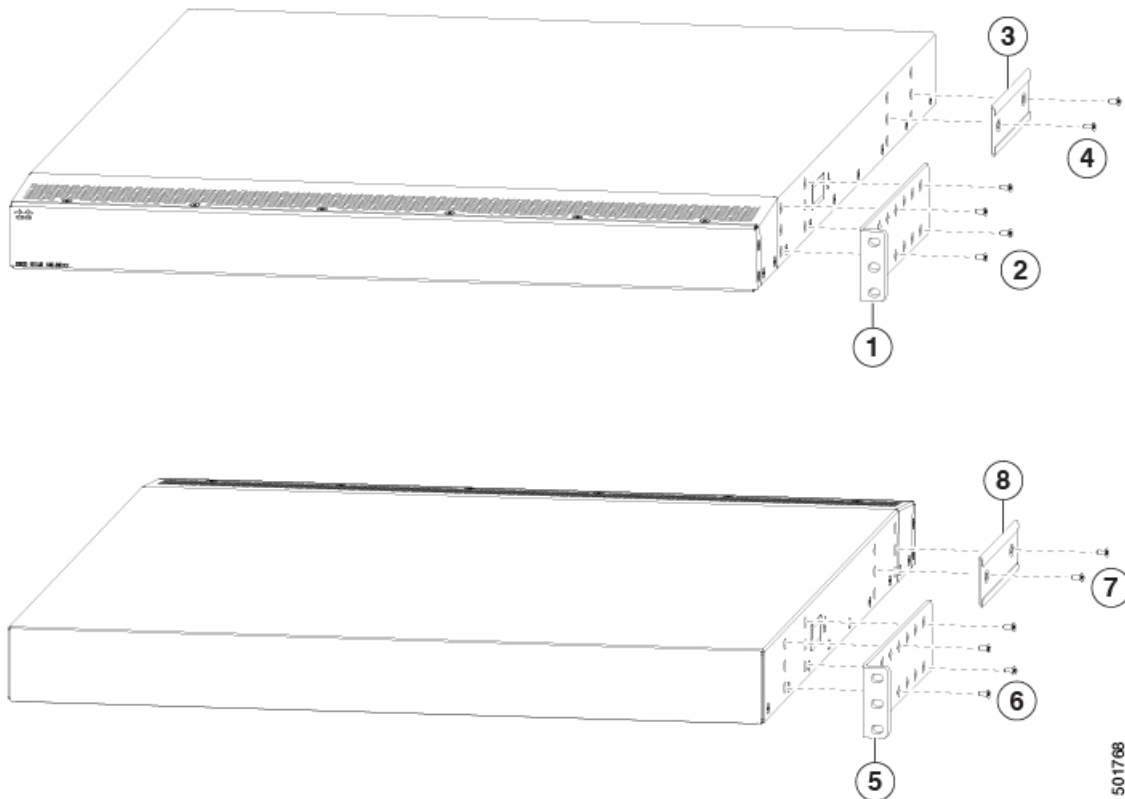
- You have inspected the switch shipment to ensure that you have everything ordered.
- Make sure that the switch rack-mount kit includes the following parts:
 - Front rack-mount brackets (2)
 - Rear rack-mount brackets (2)
 - Slider rails (2)
 - M4 x 0.7 x 8-mm Phillips countersink screws (12)
- The rack is installed and secured to its location.

Step 1

Install two front-mount brackets to the switch as follows:

- a) Determine which end of the chassis is to be located in the cold aisle as follows:
 - If the switch has port-side intake modules (fan modules with burgundy coloring), position the switch so that its ports will be in the cold aisle.
 - If the switch has port-side exhaust modules (fan modules with blue coloring), position the switch so that its fan and power supply modules will be in the cold aisle.
- b) Position a front-mount bracket so that four of its screw holes are aligned to the screw holes on the side of the chassis.

Note You can align any four of the holes in the front rack-mount bracket to four of the six screw holes on the side of the chassis (see the two ways to mount these brackets on a typical chassis, in following figure). The holes that you use depend on the requirements of your rack and the amount of clearance required for interface cables (3 inches [7.6 mm] minimum) and module handles (1 inch [2.5 mm] minimum).



1	Front rack-mount bracket aligned to the port end of the chassis	5	Front rack-mount bracket aligned to the module end of the chassis
2	Four M4 screws used to attach the bracket to the chassis	6	Four M4 screws used to attach the bracket to the chassis
3	Rear rack-mount guide aligned to the module end of the chassis	7	Two M4 screws used to attach the bracket to the chassis
4	Two M4 screws used to attach the bracket to the chassis	8	Rear rack-mount guide aligned to the port end of the chassis

- c) Secure the front-mount bracket to the chassis using four M4 screws and tighten each screw to 12 in-lb (1.36 N·m) of torque.
- d) Repeat Step 1 for the other front rack-mount bracket on the other side of the switch and be sure to position that bracket the same distance from the front of the switch.

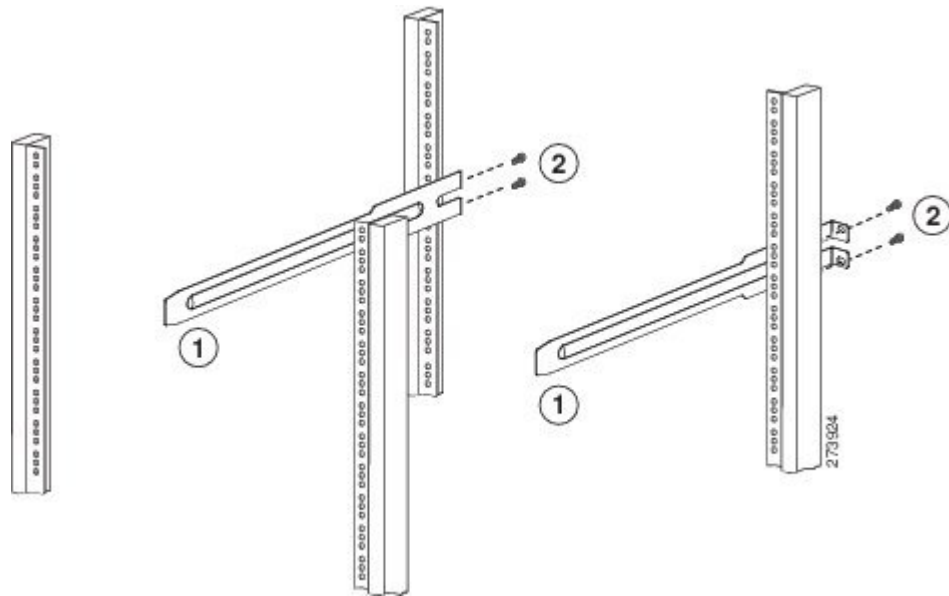
Step 2 Install the two rear rack-mount brackets on the chassis as follows:

- a) Align the two screw holes on a rear rack-mount bracket to the middle two screw holes in the remaining six screw holes on a side of the chassis. If you are aligning the guide to holes that are near the port connections end of the chassis, see Callout 3 in the previous figure. Otherwise, see Callout 7 in the previous figure.
- b) Attach the guide to the chassis using two M4 screws (see Callout 4 or 8 in the previous figure). Tighten the screws to 12 in-lb (1.36 N·m) of torque.
- c) Repeat Step 2 for the other rear rack-mount bracket on the other side of the switch.

Step 3 If you are not installing the chassis into a grounded rack, you must attach a customer-supplied grounding wire to the chassis as explained in the [Grounding the Chassis, on page 28](#) section. If you are installing the chassis into a grounded rack, you can skip this step.

Step 4 Install the slider rails on the rack or cabinet as follows:

- a) Determine which two posts of the rack or cabinet you should use for the slider rails. Of the four vertical posts in the rack or cabinet, two will be used for the front mount brackets attached to the easiest accessed end of the chassis, and the other two posts will have the slider rails.
- b) Position a slider rail at the desired level on the back side of the rack and use two 12-24 screws or two 10-32 screws, depending on the rack thread type, to attach the rails to the rack (see the following figure). Tighten 12-24 screws to 30 in-lb (3.39 N·m) of torque and tighten 10-32 screws to 20 in-lb (2.26 N·m) of torque.



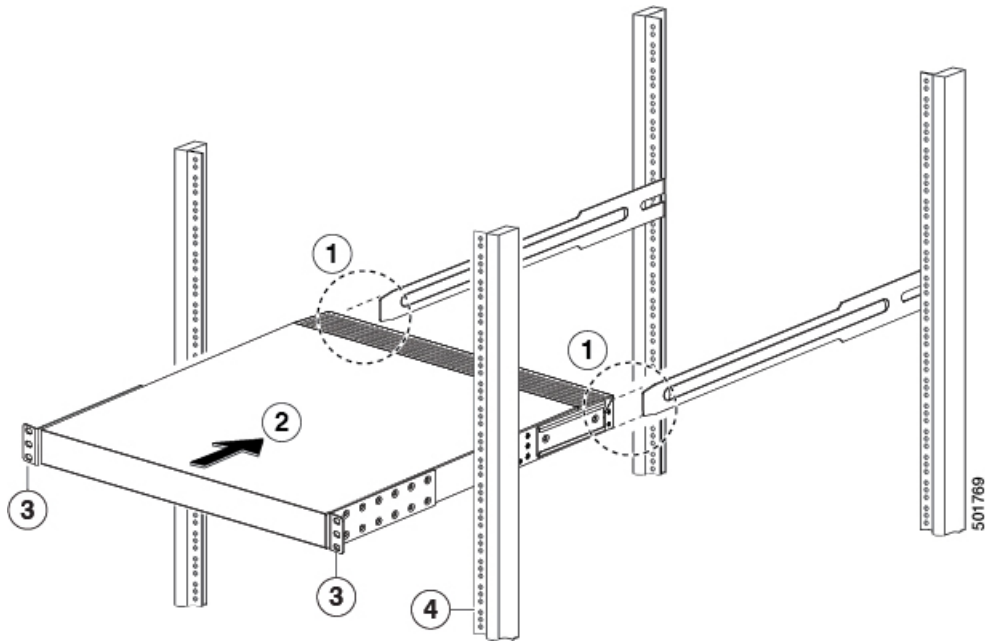
1	Slider rail with screw holes aligned to screw holes in rack	2	Two customer-supplied 12-24 or 10-32 screws used to attach each slider rail to the rack
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- c) Repeat Step 3 to attach the other slider rail to the other side of the rack.

To make sure that the slider rails are at the same level, you should use a level tool, tape measure, or carefully count the screw holes in the vertical mounting rails.

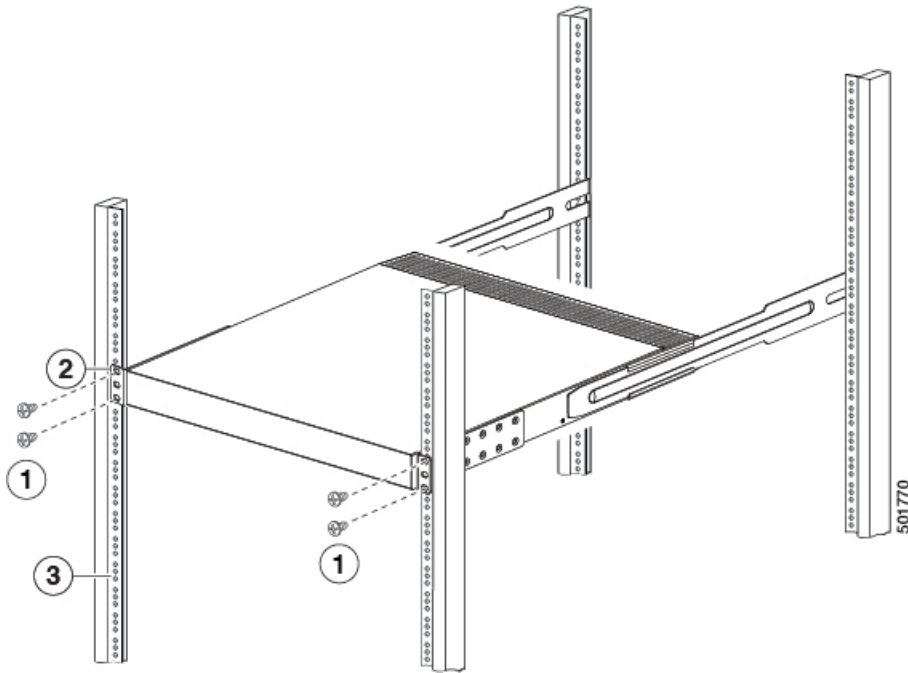
Step 5 Insert the switch into the rack and attach it as follows:

- a) Holding the switch with both hands, position the two rear rack-mount brackets on the switch between the rack or cabinet posts that do not have slider rails attached to them (see the following figure).



1	Align the two rear rack-mount bracket guides with the slider rails installed in the rack.	3	Front-mount brackets.
2	Slide the rack-mount guides onto the slider rails until the front rack-mount brackets come in contact with the front rack-mount rails.	4	Mounting rails on rack or cabinet posts.

- b) Align the two rear rack-mount guides on either side of the switch with the slider rails installed in the rack. Slide the rack-mount guides onto the slider rails, and then gently slide the switch all the way into the rack until the front rack-mount brackets come in contact with two rack or cabinet posts.
- c) Holding the chassis level, insert two screws (12-24 or 10-32, depending on the rack type) in each of the two front rack-mount brackets (using a total of four screws) and into the cage nuts or threaded holes in the vertical rack-mounting rails (see the following figure).



1	Fasten the chassis to the front of the rack with two 12-24 or 10-32 screws on each side.	3	Mounting rails on rack or cabinet posts.
2	Front-mount bracket.		

d) Tighten the 10-32 screws to 20 in-lb (2.26 N·m) or tighten the 12-24 screws to 30 in-lb (3.39 N·m).

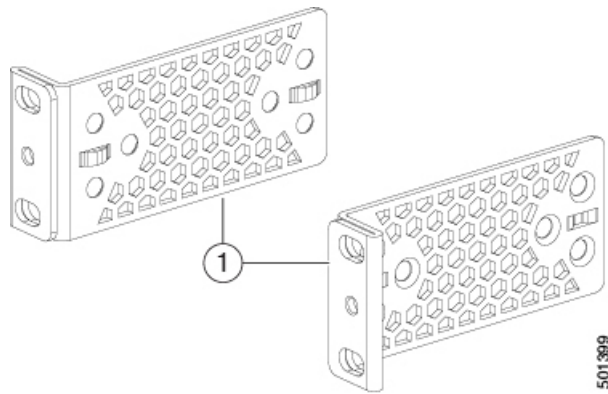
Step 6 If you attached a grounding wire to the chassis grounding pad, connect the other end of the wire to the facility ground.

Installing a 1 (RU) Chassis in a Two-Post Rack

This section describes the rack installation for the Cisco Nexus 3000 series switch into a two-post rack.

To install a switch, you must attach mounting brackets to the switch and secure the switch to the rack. Installation in racks other than 19-inch racks requires a bracket kit not included with the switch.

The following figure shows the standard 19-inch mounting brackets.



1	19-inch brackets (C3850-RACK-KIT=)		
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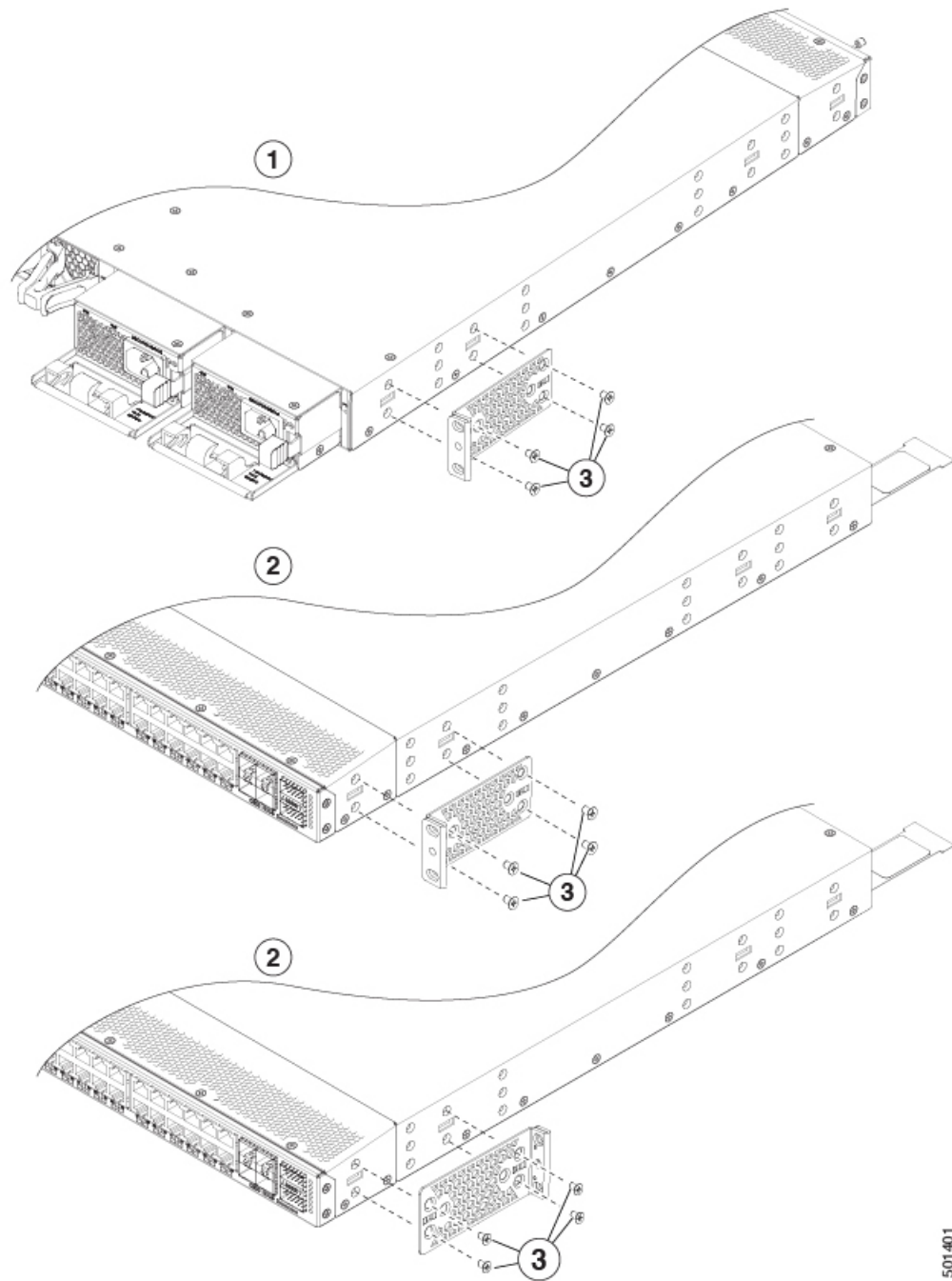
SUMMARY STEPS

1. Install the brackets to a typical switch.
2. Install the chassis into the rack.

DETAILED STEPS

Step 1 Install the brackets to a typical switch.

- a) Determine which end of the chassis is to be located in the cold aisle as follows:
 - If the switch has port-side intake modules (fan modules with burgundy coloring), position the switch so that its ports will be in the cold aisle.
 - If the switch has port-side exhaust modules (fan modules with blue coloring), position the switch so that its fan and power supply modules will be in the cold aisle.
- b) Position the bracket so that four of its screw holes are aligned to the screw holes on the side of the chassis.



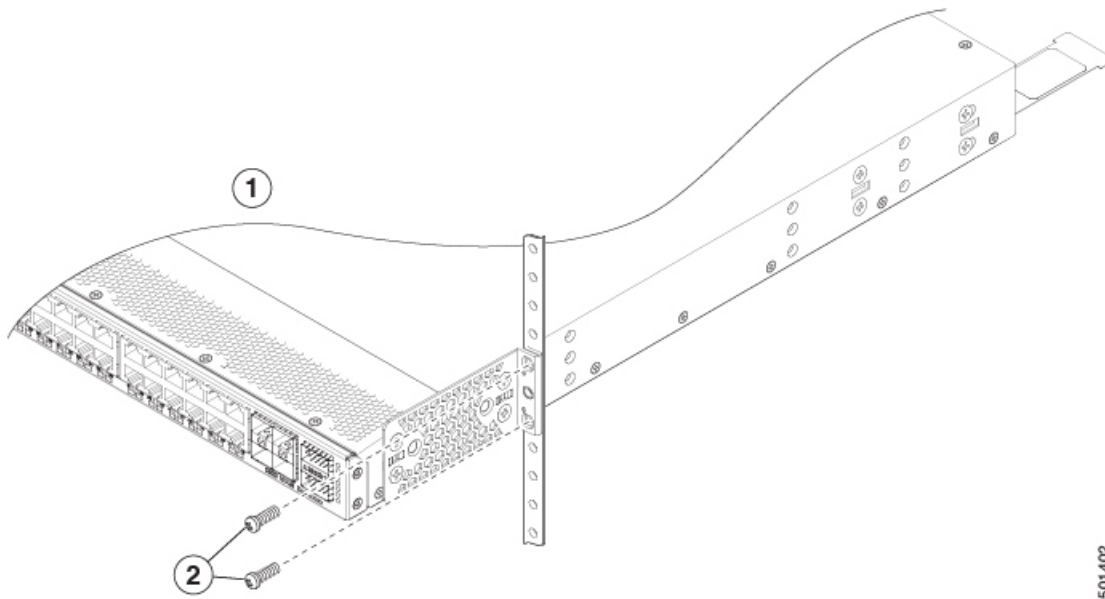
501401

1	Rear-mounting position	3	Number-8 Phillips flat-head screws (4 each bracket)
2	Front-mounting position		

- c) Secure the bracket to the chassis using four Number-8 Phillips flat-head screws and tighten each screw to 12 in-lb (1.36 N·m) of torque.
- d) Repeat previous step for the other front rack-mount bracket on the other side of the switch and be sure to position that bracket the same distance from the front of the switch.

Step 2 Install the chassis into the rack.

- a) Use two M4 screws to attach the brackets to the rack.



501402

1	Front-mounting position	2	M4 screws (2 each side)
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Installing a 2 (RU) Chassis in a Four-Post Rack

Before you install the chassis, be sure that the rack is fully secured to the data center floor.

Installing the Switch using the NXK-ACC-RMK-2RU Rack-mount Kit

To install the switch, you must attach mounting brackets to the rack, install slider rails on the rear of the rack, slide the switch onto the slider rails, install the retainer brackets, and secure the switch to the rack with the retainer clips. Typically, the front of the rack is the side easiest to access for maintenance.



Note You must supply the eight 10-32 or 12-24 screws required to mount the slider rails and switch to the rack.

Before you begin

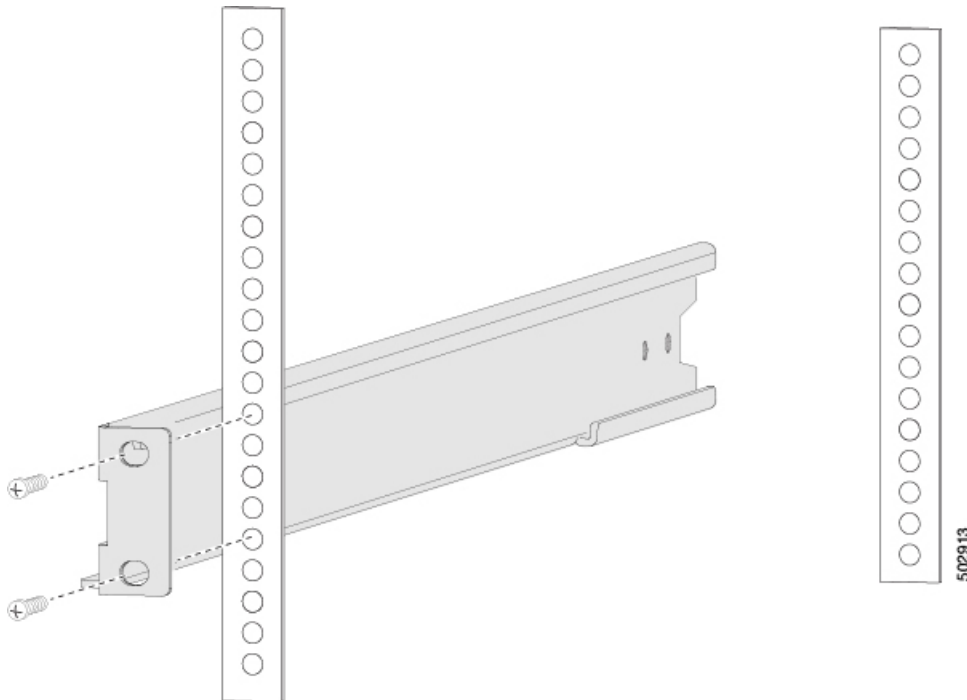
- You have inspected the switch shipment to ensure that you have everything ordered.
- Make sure that the switch rack-mount kit includes the following parts:
 - Rack-mount brackets (2)
 - Rack-mount retainer brackets (2)

- Rack-mount slider rails (2)
 - Rack-mount retainer clips (2)
 - Phillips countersink screws (8)
 - Flat head screws (4)
- The rack is installed and secured to its location.

Step 1

Install two rack-mount brackets to the rack as follows:

- Determine which end of the chassis is to be located in the cold aisle as follows:
 - If the switch has port-side intake modules (fan modules with burgundy coloring), position the front-mount brackets so that the switch ports will be in the cold aisle.
 - If the switch has port-side exhaust modules (fan modules with blue coloring), position the front-mount brackets so that the switch fan and power supply modules will be in the cold aisle.
- Position a front-mount bracket so that it aligns to the desired position in the rack and secure the bracket with 12-24 screws or 10-32 screws, depending on the rack thread type (see the following figure). Tighten 12-24 screws to 30 in-lb (3.39 N·m) of torque and tighten 10-32 screws to 20 in-lb (2.26 N·m) of torque..



- Repeat Step 1 for the other front rack-mount bracket on the other side of the rack and be sure to position that bracket horizontally to the same level as first bracket.

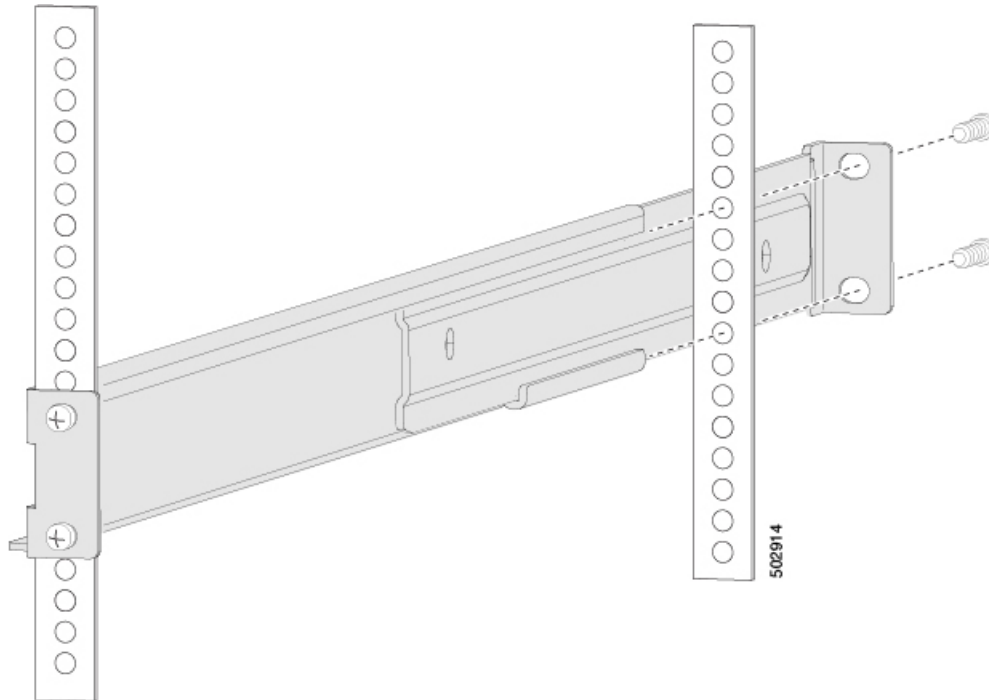
Step 2

If you are not installing the chassis into a grounded rack, you must attach a customer-supplied grounding wire to the chassis as explained in [Grounding the Chassis, on page 28](#). If you are installing the chassis into a grounded rack, you can skip this step.

Step 3

Install the slider rails on the rack or cabinet as follows:

- a) Determine which two posts of the rack or cabinet you should use for the slider rails. Of the four vertical posts in the rack or cabinet, two will be used for the front mount brackets attached to the easiest accessed end of the chassis, and the other two posts will have the slider rails.
- b) Position a slider rail at the desired level on the back side of the rack and slide it into the front-mount bracket already installed and secure with 12-24 screws or 10-32 screws, depending on the rack thread type (see the following figure). Tighten 12-24 screws to 30 in-lb (3.39 N·m) of torque and tighten 10-32 screws to 20 in-lb (2.26 N·m) of torque.

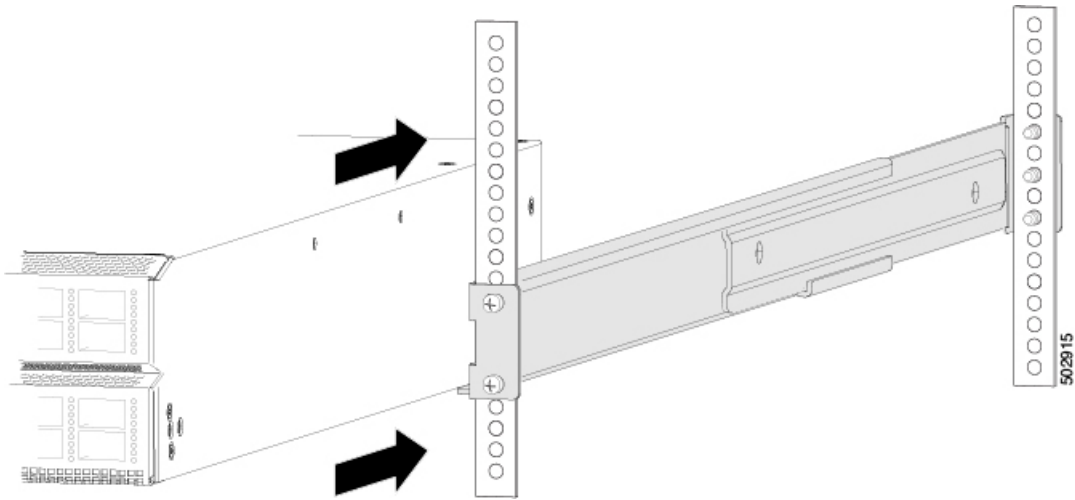


- c) Repeat Step 3 to attach the other slider rail to the other side of the rack.

To make sure that the slider rails are at the same level, you should use a level tool, tape measure, or carefully count the screw holes in the vertical mounting rails.

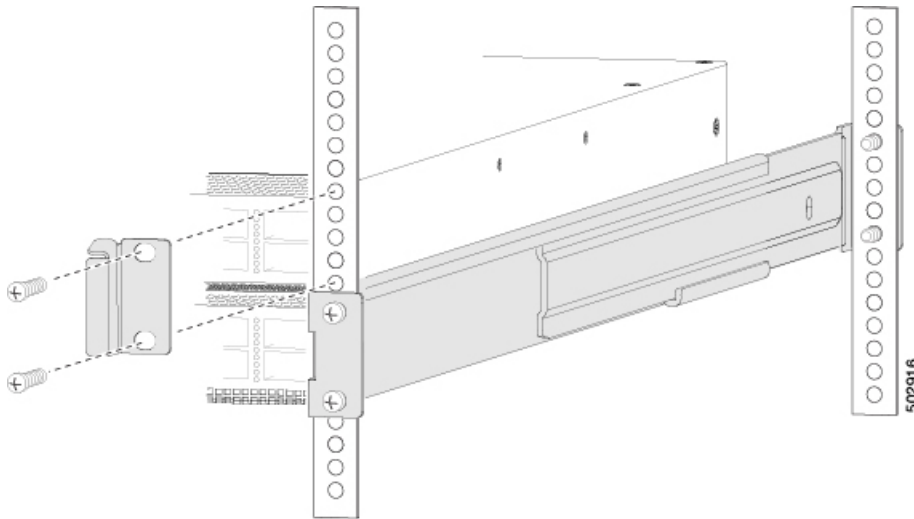
Step 4 Insert the switch into the rack and attach it as follows:

- a) Holding the switch with both hands, position the switch onto the rack-mount brackets and carefully slide the chassis into the rack (see the following figure).



Step 5 Insert the rack-mount retainer brackets

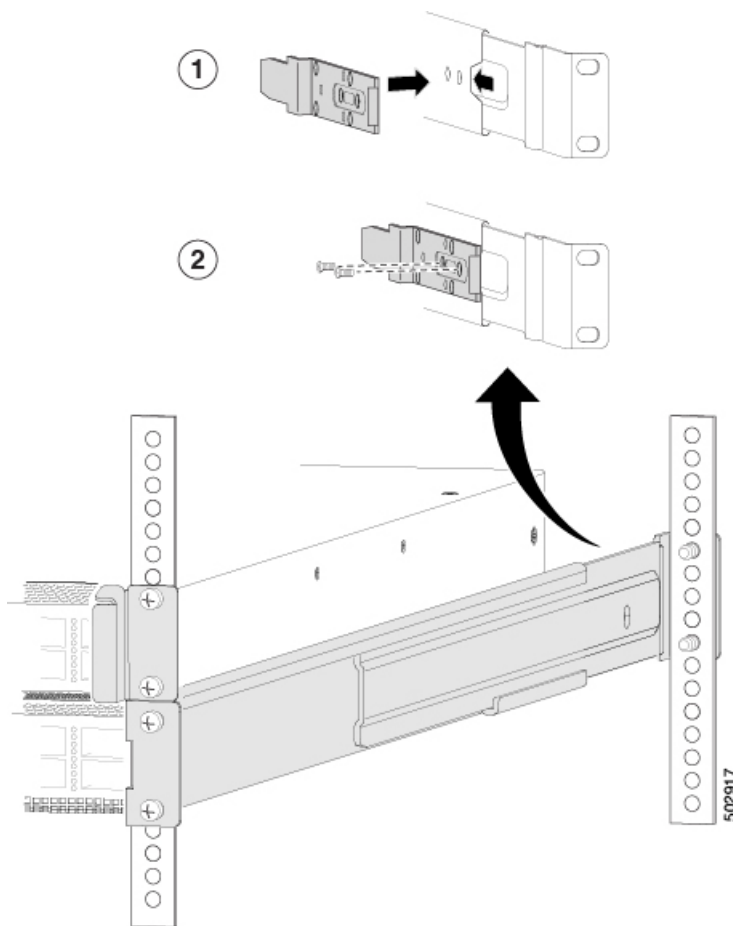
- a) Align the retainer brackets to the front of the chassis, being careful not to damage anything on the front of the chassis (see the following figure).
- b) Repeat Step 5 to attach the other retainer bracket on other side of the chassis.



- c) Tighten the 10-32 screws to 20 in-lb (2.26 N·m) or tighten the 12-24 screws to 30 in-lb (3.39 N·m).

Step 6 Insert the retainer clip to hold the chassis in place.

- a) Align the retainer clip to the inside of the back of the slider rail. Make sure to hook the flange to the cutout on the bracket and align the screw holes (see the following figure).
- b) Attach the screws to secure the retainer clip (see the following figure).
- c) Repeat Step 6 to attach the other retainer clip on the other side of the chassis.



Step 7 If you attached a grounding wire to the chassis grounding pad, connect the other end of the wire to the facility ground.

Installing the Switch using the N9K-C9300-RMK Rack-mount Kit

Attaching the Bottom-Support Rails to the Rack

The switch chassis that you are installing ships with two adjustable bottom-support rails that you can attach to a four-post rack to hold the chassis. Each of these bottom-support rails has two pieces—one that slides into the other so that you can adjust them to fit racks with front and rear mounting posts that are spaced less than 36 inches (91 cm). On each bottom-support rail, the rail half that slides into the other rail includes a chassis stop that fits into the module end of the chassis. Depending on direction of the chassis airflow, you need to position the rail half with the chassis stop so that the fan and power supply modules end up in the appropriate aisle as follows:

- Port-side intake (burgundy coloring for fan modules) airflow requires that the bottom-support rail with the chassis stop be located on the hot aisle side of the rack.
- Port-side exhaust (blue coloring for fan modules) airflow requires that the bottom-support rail with the chassis stop be located on the cold aisle side of the rack.



Warning Statement 1074—Comply with Local and National Electrical Codes

To reduce risk of electric shock or fire, installation of the equipment must comply with local and national electrical codes.

Before you begin

Before you can install the bottom support rails for the chassis, you must do the following:

- Verify that a four-post rack or cabinet is installed.
- If any other devices are stored in the rack or cabinet, verify that the heavier switches are installed below lighter switches.
- Verify that the bottom-support rails kit is included in the switch accessory kit.
- Verify that you have 8 screws for attaching the bottom support brackets to the racks (typically M6 x 10 mm screws or the screw appropriate for the vertical mounting rails on the rack).



Warning Statement 1006—Chassis Warning for Rack-Mounting and Servicing

To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:

- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
 - When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
 - If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.
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Step 1 Look at the fan and power supply modules installed in the chassis to determine how you must position the bottom-support rails on the rack.

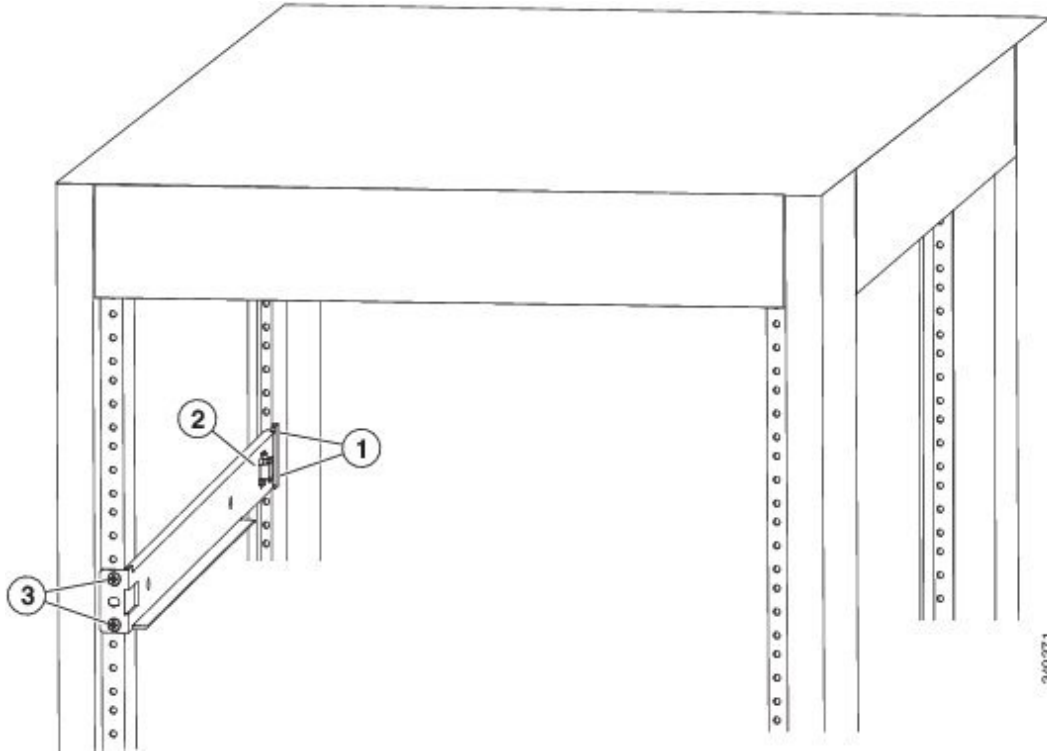
- If the fan modules have blue coloring (port-side exhaust modules), you must position the bottom support rails so that the chassis stop is positioned by the cold aisle.
- If the fan modules have burgundy (port-side intake modules), you must position the bottom support rails so that the chassis stop is positioned by the hot aisle.

Step 2 Separate the two sliders that make up one bottom-support rail and position the half with the chassis stop by the appropriate aisle for the fan and power supply modules. Also make sure that there is at least 1 rack unit open above the bottom-support rails so that you can easily install the chassis.

Step 3 Use two customer-supplied screws (typically M6 x 10 mm screws) to attach the bottom-support rail half to the vertical mounting rails on the rack post. Tighten each screw to the appropriate torque setting for the screws (for M6 x 10 mm screws, use 40 in. lbs [4.5 N·m] of torque).

Step 4 Slide the other half of the bottom-support rail onto the attached half of the rail set and use two customer supplied screws (typically M6 x 10 mm screws) to secure that portion to the vertical mounting rails on the rack. Tighten each screw to the appropriate torque setting for the screws (for M6 x 10 mm screws, use 40 in. lbs [4.5 N·m] of torque).

Figure 1: Positioning an Expanding Bottom-Support Rail Set



1	2 screws holding one end of the bottom-support bracket to the rear of the rack	3	2 screws holding the front end of the bottom-support bracket to the front side of the rack
2	Chassis stop on the expanding bottom-support bracket		

Step 5 Repeat Steps 2 and 3 to attach the other expanding bottom-support rails to the other side of the rack.

Note Check the two installed bottom support rails to be sure that both have their chassis stops by the same aisle (either both by the hot aisle or both by the cold aisle) and that both rails are level and level with each other. If they are not level, adjust the higher rail down to the level of the lower rail.

What to do next

You are ready to install two front-mount brackets on the chassis.

Attaching Front-Mount Brackets to the Chassis

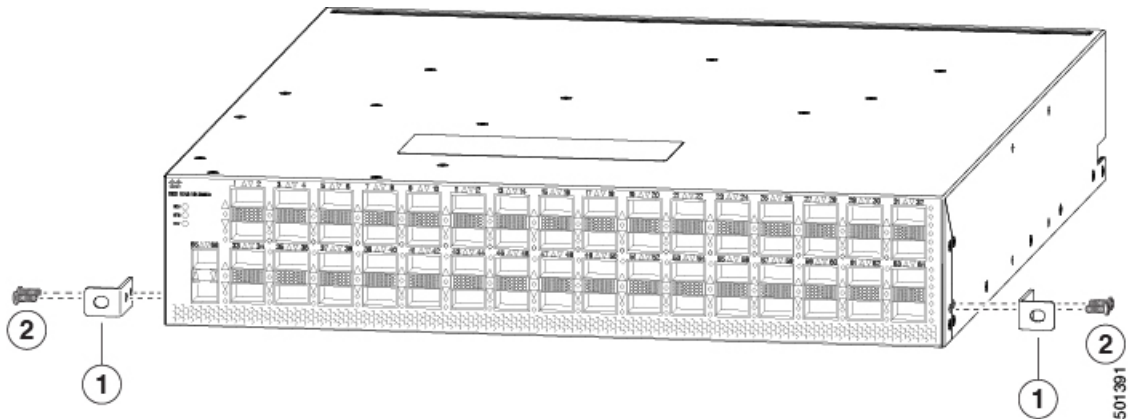
You need to attach a right-angled bracket to each side of the chassis. This bracket holds the chassis in place on a four-post rack.

Before you begin

- You must have the following tools and equipment:
 - Manual Phillips-head torque screwdriver
 - Front-mount brackets (2) and screws (4) (found inside the switch accessory kit)

Step 1 Align the two holes in one side of one of two front-mount brackets to two holes on the left or right side of the chassis (see the following figure).

Be sure that the other side of the bracket is facing toward the front (port end) of the chassis.



1	Front-mount bracket with two screw holes aligned to two screw holes in the chassis and one screw hole facing the front (port side) of the chassis.	2	Two M4 x 6 mm screws used to fasten the bracket to the chassis.
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Step 2 Use two M4 x 6 mm screws to attach the bracket to the chassis. Tighten each screw to 11 to 15 in-lb (1.2 to 1.7 N·m).

Step 3 Repeat Steps 1 and 2 to attach the second center-mount bracket to the other side of the chassis.

What to do next

You are ready to mount the chassis to the four-post rack.

Installing the Chassis in a Four-Post Rack

You need to slide the chassis onto the bottom-support rails so that the power supply end locks onto the chassis stops at the end of the rails and so that the front-mount brackets on the chassis come into contact with the front-mount rails on the rack.



Warning Statement 1074—Comply with Local and National Electrical Codes

To reduce risk of electric shock or fire, installation of the equipment must comply with local and national electrical codes.



Warning Statement 1032—Lifting the Chassis

To prevent personal injury or damage to the chassis, never attempt to lift or tilt the chassis using the handles on modules (such as power supplies, fans, or cards); these types of handles are not designed to support the weight of the unit.

Before you begin

- Make sure that the four-post rack is properly installed and secured to the concrete subfloor.
- Make sure that the bottom-support rails are installed so that the fan modules will be in the appropriate aisle as follows:
 - Burgundy (port-side intake airflow) fan modules are positioned in a hot aisle (the chassis stop on the bottom-support rails is positioned by the hot aisle).
 - Blue colored (port-side exhaust airflow) fan modules are positioned in a cold aisle (the chassis stop on the bottom-support rails is positioned by the cold aisle).
- Make sure that two front-mount brackets are securely fastened to the sides of the chassis at the port end.
- Make sure that you have two customer-supplied rack-mount screws (M6 x 10 mm or appropriate screw for the vertical mounting rails on the rack).



Warning Statement 1006—Chassis Warning for Rack-Mounting and Servicing

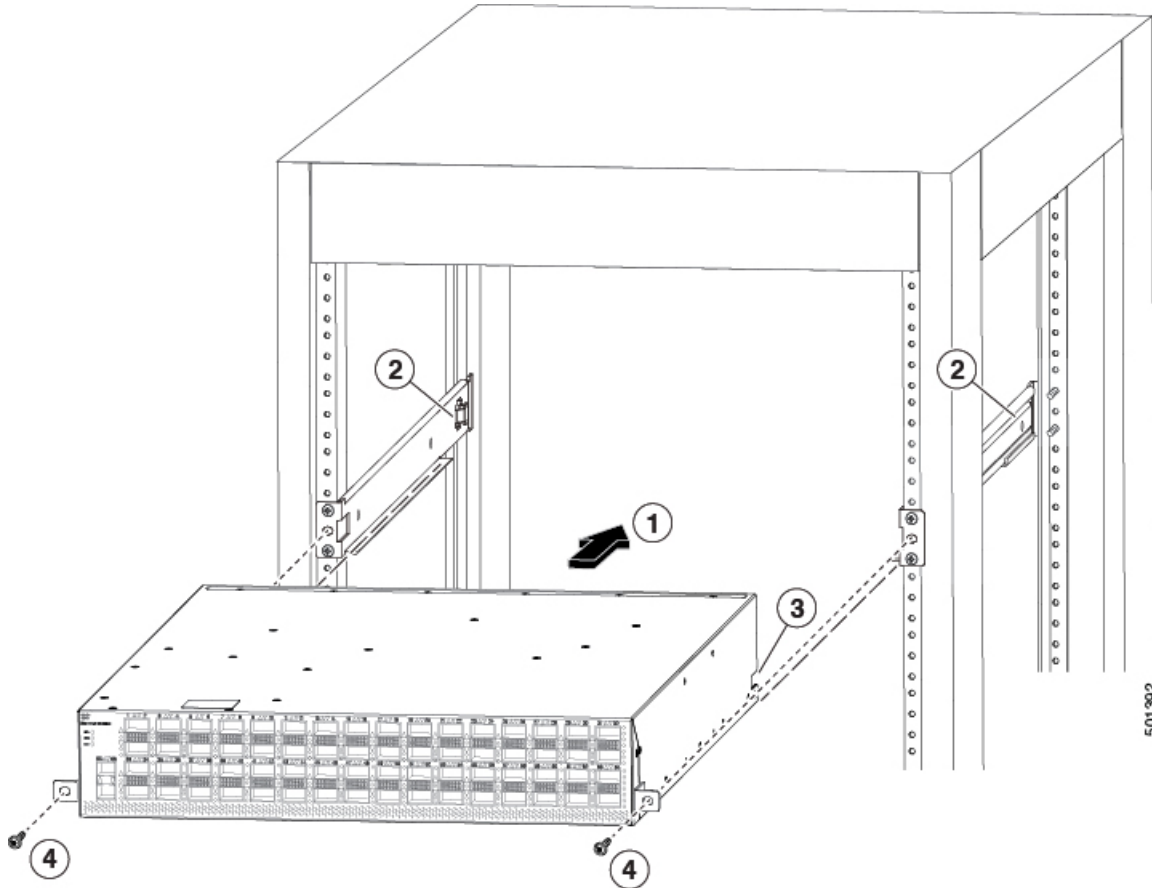
To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:

- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
 - When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
 - If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.
-

Step 1 Slide the power supply end of the chassis onto the bottom-support rails that are installed on the rack.

Be sure that the sides of the chassis by the power supplies clips into the chassis stops on the bottom-support rails and the front-mount brackets come in contact with the rack (see the following figure).

Note If the bottom-support rails are extended a long distance, they can bend outwards slightly when you install the chassis and the chassis stops at the far end of the rails might not fit into the end of the chassis. If this happens, press the side rails toward the sides of the chassis so that the chassis stops can go inside the chassis and hold it in place on the rack.



1	Slide the power-supply end of the chassis onto the bottom-support rails so that the chassis locks onto the chassis stops at the end of the rails.	3	Receiving hole on each side of the chassis for the chassis stops on the bottom-support rails.
2	Chassis stops for holding the chassis (positioned by the aisle required for the fan and power supply modules).	4	Customer-supplied rack-mount screw (M6 x 10 mm screw or other screw appropriate for the rack) used to secure each side of the chassis to the rack.

Step 2

Use a customer-supplied rack-mount screw (an M6 x 10 mm screw or other appropriate screw for the rack) to attach each of the two mounting brackets on the chassis to the rack and tighten each screw to the appropriate torque setting for the screw (for M6 x 10 mm screws, use 40 in-lbs [4.5 N·m] of torque).

Installing a 2 (RU) Chassis in a Two-Post Rack

This section describes the rack installation for the Cisco Nexus 3000 series switch into a two-post rack.

You need to attach a right-angled bracket to each side of the chassis. This bracket centers the chassis and secures it in place on a two-post rack.

Position the chassis near the top of the rack with the power supply and fan modules in the appropriate aisle for their required airflow. If the fan modules have a blue coloring for port-side exhaust airflow, then you must position the modules by the cold aisle. If the fan modules have a burgundy coloring for port-side intake airflow, you must position the modules by the hot aisle.



Warning Statement 1006—Chassis Warning for Rack-Mounting and Servicing

To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable. The following guidelines are provided to ensure your safety:

- This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
 - When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
 - If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.
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Before you begin

- You must separately order the center-mount brackets if you are installing the chassis in a two-post rack. These brackets do not ship with the chassis unless you specifically order them.
- You must have the following tools and equipment:
 - Manual Phillips-head torque screwdriver
 - Center-mount bracket kit
 - Make sure that you have six customer-supplied rack-mount screws (typically M6 x 10 mm or the appropriate screw for the vertical mounting rails on the rack).
 - You have at least two people to install the chassis.

SUMMARY STEPS

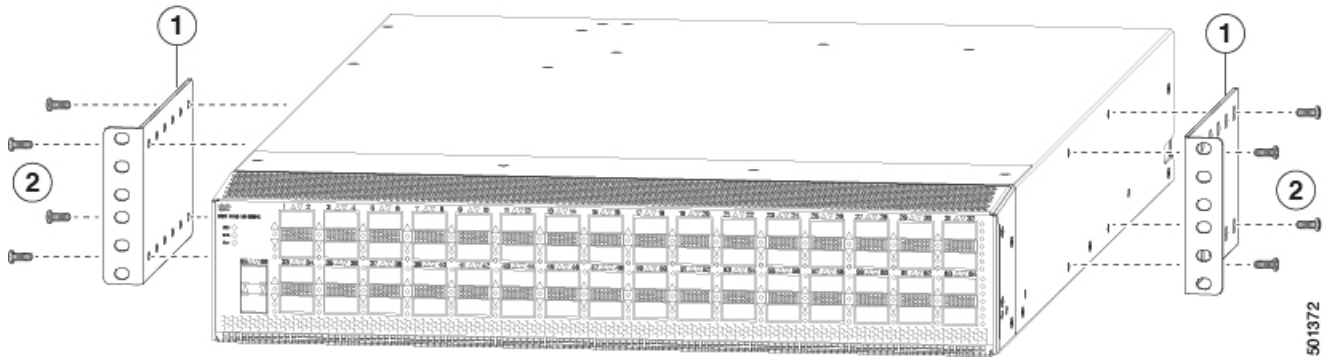
1. Align one of the two center-mount brackets on the left or right side of the chassis and be sure that the angled portion is facing the front of the chassis (see the following figure).
2. Use four M4 x 8 mm screws to attach the bracket to the chassis. Tighten each screw to 11 to 15 in-lb (1.2 to 1.7 N·m).
3. Repeat Steps 1 and 2 to attach the second center-mount bracket to the other side of the chassis.
4. Use one person to position the chassis so that it is near the top of the rack with the fan and power supply modules in the appropriate aisle and the center-mount bracket has its screw holes aligned to screw holes on the two-post rack.

5. Use the second person to secure the three customer-supplied rack-mount screws (typically M6 x 10 mm or other appropriate screws for the rack) on each center-mount bracket to attach the chassis to the rack. Tighten each screw to the appropriate torque setting for the screws (for M6 x 10 mm screws, use 40 in-lbs [4.5 N·m] of torque).

DETAILED STEPS

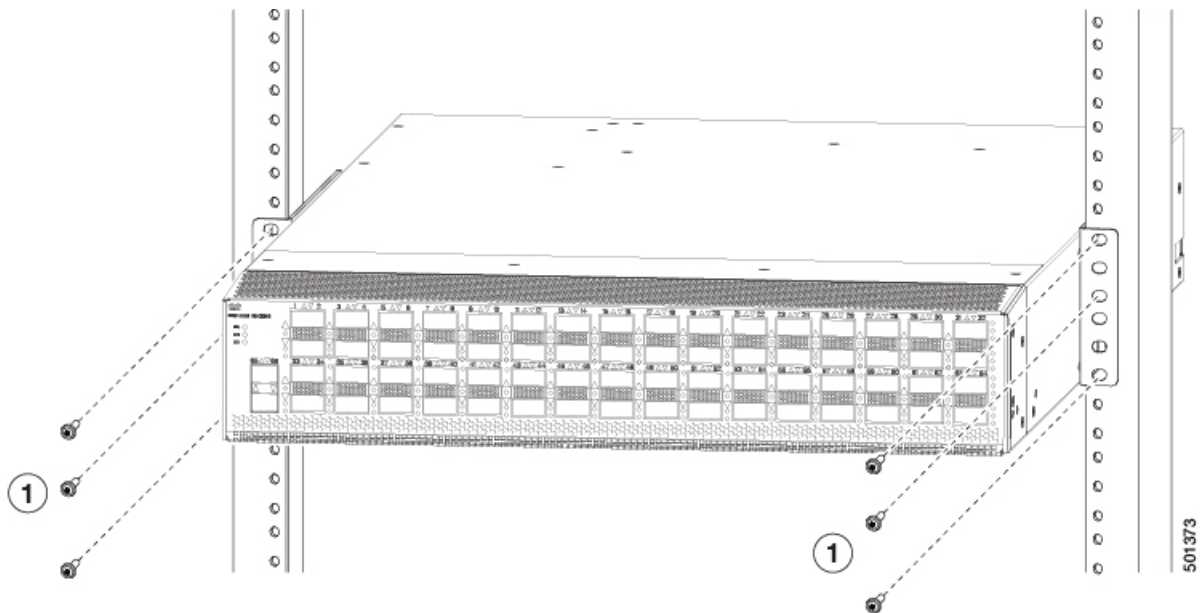
Step 1 Align one of the two center-mount brackets on the left or right side of the chassis and be sure that the angled portion is facing the front of the chassis (see the following figure).

Be sure to align four of the screw holes on the larger side of the bracket with the four screw holes near the center of the left or right side of the chassis.



1	Center-mount bracket with its larger side facing the chassis and the longer side facing the front (port side) of the chassis. Align four screw holes in the bracket to four screw holes in the side of the chassis.	2	Four M4 x 8 mm screws used to fasten the bracket to the chassis.
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- Step 2** Use four M4 x 8 mm screws to attach the bracket to the chassis. Tighten each screw to 11 to 15 in-lb (1.2 to 1.7 N·m).
- Step 3** Repeat Steps 1 and 2 to attach the second center-mount bracket to the other side of the chassis.
- Step 4** Use one person to position the chassis so that it is near the top of the rack with the fan and power supply modules in the appropriate aisle and the center-mount bracket has its screw holes aligned to screw holes on the two-post rack.
- If these modules have a blue coloring for port-side exhaust airflow, then you must position the modules by the cold aisle. If the modules have a burgundy coloring for port-side intake airflow, you must position the modules by the hot aisle.



1	Three customer-supplied screws (typically M6 x 10 mm screws or the appropriate screws for the rack) to hold each side of the chassis to the two-post rack.	
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Step 5 Use the second person to secure the three customer-supplied rack-mount screws (typically M6 x 10 mm or other appropriate screws for the rack) on each center-mount bracket to attach the chassis to the rack. Tighten each screw to the appropriate torque setting for the screws (for M6 x 10 mm screws, use 40 in-lbs [4.5 N·m] of torque).

Grounding the Chassis

The switch chassis is automatically grounded when you properly install the switch in a grounded rack with metal-to-metal connections between the switch and rack.

You can also ground the chassis, which is required if the rack is not grounded, by attaching a customer-supplied grounding cable. Attach the cable to the chassis grounding pad and the facility ground.



Warning **Statement 1024**—Ground Conductor

This equipment must be grounded. To reduce the risk of electric shock, never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.



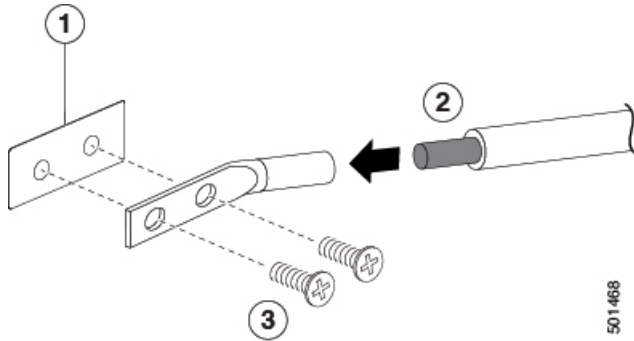
Warning **Statement 1046**—Installing or Replacing the Unit

To reduce risk of electric shock, when installing or replacing the unit, the ground connection must always be made first and disconnected last.

Before you begin

Before you can ground the chassis, you must have a connection to the earth ground for the data center building.

- Step 1** Use a wire-stripping tool to remove approximately 0.75 inch (19 mm) of the covering from the end of the grounding wire. We recommend 6-AWG wire for the U.S. installations.
- Step 2** Insert the stripped end of the grounding wire into the open end of the grounding lug. Use a crimping tool to crimp the lug to the wire, see the following figure. Verify that the ground wire is securely attached to the grounding lug by attempting to pull the wire out of the crimped lug.



1	Chassis grounding pad	3	2 M4 screws are used to secure the grounding lug to the chassis
2	Grounding cable, with 0.75 in. (19 mm) of insulation that is stripped from one end, which is inserted into the grounding lug and crimped in place		

- Step 3** Secure the grounding lug to the chassis grounding pad with two M4 screws, see the previous figure. Tighten the screws to 11 to 15 in-lb (1.24 to 1.69 N·m) of torque.
- Step 4** Prepare the other end of the grounding wire and connect it to the facility ground.

Starting the Switch

To power up the switch, follow these steps:

Before you begin

- Verify that the switch is fully installed and secured to a rack.
- Verify that the switch is adequately grounded to the facility earth ground or to a grounded rack.

- Verify that all of the fan and power supply modules are installed in the chassis. If the chassis has only one power supply, there must be a blank module (N2200-P-BLNK) in the open power supply slot to maintain the designed airflow.
- If you are using a DC power source, verify that the circuit is shut off at a circuit breaker.

Step 1 If the switch has AC power supplies, connect those power supplies to an AC power source as follows:

- a) Verify that the AC power source is turned off at the circuit breaker.
- b) Plug the power cable into the power receptacle on the power supply.
- c) Attach the other end of the power cable to the AC power source.
- d) Turn on the power at the circuit breaker.
- e) Verify that the power supply is functioning by making sure that the OK LED turns green and the FAULT LED is off.

Step 2 If the switch has HVAC/HVDC power supplies, connect those power supplies to a power source as follows:

- a) Using the recommended high voltage power cable for your country or region, connect the Anderson Power Saf-D-Grid connector on the power cable to the power receptacle on the power supply. Make sure that the connector clicks when fully pushed into the receptacle.
- b) Connect the other end of the power cable to a power source.
 - When connecting to an HVAC power source, insert the C14 or LS-25 plug in a receptacle for the HVAC power source.
 - When connecting to an HVDC power source, do the following:
 1. Verify that the power is turned off at a circuit breaker for the power source terminals.
 2. Remove the nuts from each of the terminal posts for the power supply.
 3. Place the power cable negative-wire terminal ring on the negative terminal for the power source and secure them with a terminal nut.
 4. Place the power cable positive-wire terminal ring on the positive terminal for the power source and secure them with a terminal nut.
 5. Place the power cable ground-wire terminal ring on the ground terminal for the power source and secure them with a terminal nut.
 6. If there is a safety cover for the power source terminals, place and secure it over the terminals to avoid an electrical shock hazard.
 7. Turn on the power at the power source circuit breaker.

Step 3 If the switch has DC power supplies, connect those power supplies to a DC power source as follows:

- a) Verify that the DC power source is turned off at the circuit breaker.
- b) Remove the clear plastic safety cover that prevents you from touching the negative (-) and positive (+) terminals on the power supply.
- c) Connect a negative cable from the power source to the left (-) terminal on the power supply.
- d) Connect a positive cable from the power source to the right (+) terminal on the power supply.
- e) Clip on the clear plastic safety cover over the power supply terminals to prevent accidental touching of these terminals.
- f) Turn on the power at the circuit breaker.

- g) Verify that the power supply is functioning by making sure that the OK LED turns green and the FAULT LED is off.

Step 4 Listen for the fans; they should begin operating when the power cable is plugged in.

Step 5 After the switch boots, verify that the following LEDs are on:

- Power supply LED—lit and green

If not green, try removing the module part way from its slot and reinstalling it.

- Fan LED—lit and green

If not green, try removing the module part way from its slot and reinstalling it.

- System Status LED—lit and green (if this LED is orange or red, then one or more environmental monitors is reporting a problem.)
 - Link LEDs for the Ethernet connector—Off
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