



## Installing the Chassis

---

- Safety, on page 1
- Installation Options with Rack-Mount Kits, Racks, and Cabinets, on page 4
- Preparing to Install the Chassis, on page 5
- Unpacking and Inspecting the Chassis, on page 8
- Installing a 1 (RU) Chassis in a Four-Post Rack, on page 8
- Installing a 1 (RU) Chassis in a Two-Post Rack, on page 16
- Installing a 2 (RU) Chassis in a Four-Post Rack, on page 19
- Installing a 2 (RU) Chassis in a Two-Post Rack, on page 23
- Grounding the Chassis, on page 25
- Starting the Switch, on page 27

## 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**

Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Read the installation instructions before using, installing, or connecting the system to the power source. Use the statement number provided at the end of each warning statement to locate its translation in the translated safety warnings for this device.

**SAVE THESE INSTRUCTIONS**



**Warning Statement 1089**—Instructed and Skilled Person Definitions

An instructed person is someone who has been instructed and trained by a skilled person and takes the necessary precautions when working with equipment.

A skilled person or qualified personnel is someone who has training or experience in the equipment technology and understands potential hazards when working with equipment.

**Warning****Statement 1004**—Installation Instructions

Read the installation instructions before using, installing, or connecting the system to the power source.

**Warning****Statement 1040**—Product Disposal

Ultimate disposal of this product should be handled according to all national laws and regulations.

**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 371**—Power Cable and AC Adapter

When installing the product, use the provided or designated connection cables, power cables, AC adapters, and batteries. Using any other cables or adapters could cause a malfunction or a fire. Electrical Appliance and Material Safety Law prohibits the use of UL-certified cables (that have the "UL" or "CSA" shown on the cord), not regulated with the subject law by showing "PSE" on the cord, for any other electrical devices than products designated by Cisco.

**Note****Statement 407**—Japanese Safety Instruction

You are strongly advised to read the safety instruction before using the product.

<https://www.cisco.com/web/JP/techdoc/pldoc/pldoc.html>

When installing the product, use the provided or designated connection cables/power cables/AC adapters.

〈製品仕様における安全上の注意〉  
[www.cisco.com/web/JP/techdoc/index.html](http://www.cisco.com/web/JP/techdoc/index.html)

接続ケーブル、電源コードセット、ACアダプタ、バッテリなどの部品は、必ず添付品または指定品をご使用ください。添付品・指定品以外をご使用になると故障や動作不良、火災の原因となります。また、電源コードセットは弊社が指定する製品以外の電気機器には使用できないためご注意ください。

**Warning****Statement 1017**—Restricted Area

This unit is intended for installation in restricted access areas. Only skilled, instructed, or qualified personnel can access a restricted access area.

**Warning****Statement 1030—Equipment Installation**

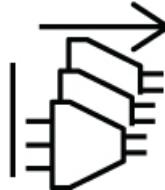
Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

**Warning****Statement 1091—Installation by an Instructed Person**

Only an instructed person or skilled person should be allowed to install, replace, or service this equipment. See statement 1089 for the definition of an instructed or skilled person.

**Warning****Statement 1028—More Than One Power Supply**

This unit might have more than one power supply connection. To reduce risk of electric shock, remove all connections to de-energize the unit.

**Warning****Statement 1003—DC Power Disconnection**

Before performing any of the following procedures, ensure that power is removed from the DC circuit.

**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.

**Warning****Statement 1022—Disconnect Device**

To reduce risk of electric shock and fire, a readily accessible two-poled disconnect device must be incorporated in the fixed wiring.

**Warning****Statement 1033—Safety Extra-Low Voltage (SELV)—IEC 60950/ES1—IEC 62368 DC Power Supply**

To reduce risk of electric shock, connect the unit only to a DC power source that complies with the SELV requirements in IEC 60950-based safety standards or ES1 requirements in IEC 62368-based safety standards.

**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 1252—Equipment Grounding**

This equipment must be grounded. To reduce the risk of electric shock, the power cord, plug, or combination must be connected to a properly grounded electrode, outlet, or terminal.

**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.

**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.

## 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 in the [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.



**Caution** 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 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.

**Note**

For AC input application, please refer to the statement below:

**Note**

For DC input application, please refer to the statement below:

**Warning****Statement 1005—Circuit Breaker**

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective devices are rated not greater than (see the table below).

**Warning****Statement 1076—Clearance Around the Ventilation Openings**

To prevent airflow restriction, allow clearance around the ventilation openings to be at least

**Table 1:**

DC Power Supply PID	N3000 Chassis PID	Power Supply Current	Circuit Breaker Current
N2200-PDC-400W	N3K-C3016XX-XXXX	15-8A	20A
NXA-PDC-500W	N3K-C3048XX-XXXX		
NXA-PDC-500W-B	N3K-C3064XX-XXXX		
	N3K-C3132XX-XXXX		
	N3K-C172XX-XXXX		

<b>DC Power Supply PID</b>	<b>N3000 Chassis PID</b>	<b>Power Supply Current</b>	<b>Circuit Breaker Current</b>
NXA-PHV-500W	N3K-C3016XX-XXXX N3K-C3048XX-XXXX N3K-C3064XX-XXXX N3K-C3132XX-XXXX N3K-C172XX-XXXX	3A	5A
UCSC-PSU-930WDC NXA-PDC-930WDC-PI NXA-PDC-930WDC-PE UCSC-PSU-6332-DC	N3K-C132C-Z N3K-C3232CXX-XXXX N3K-C3164XX-XXXX N3K-C31108PCXX-XXXX N3K-C31128XX-XXXX N3K	23-16A or 23-18A	30A
N9K-PUV-1200W	N3K-C3132C-Z N3K-C3164XX-XXXX N3K-C3264QX-XXXX N3K-C34180YC-XXXX	6A or 7A	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:

---

**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 pan-head screws (10)
- The rack is installed and secured to its location.

---

## Step 1

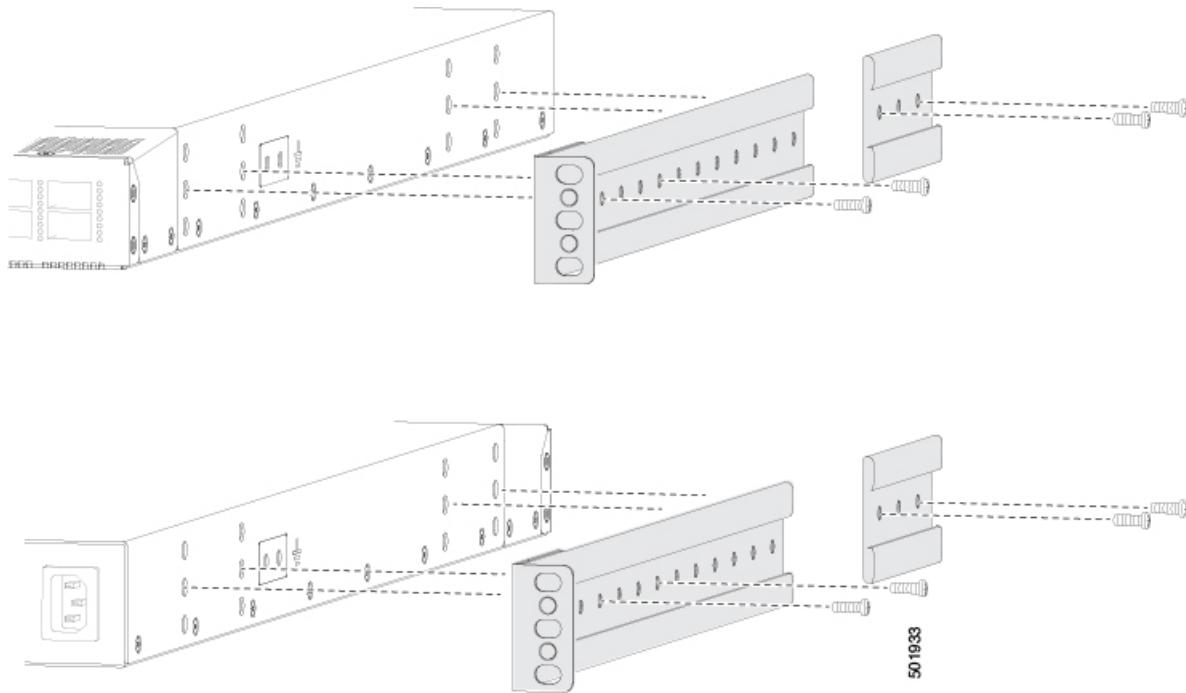
Install two front rack-mount brackets and the two rear rack-mount brackets to the switch as follows:

- 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).

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



- 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.

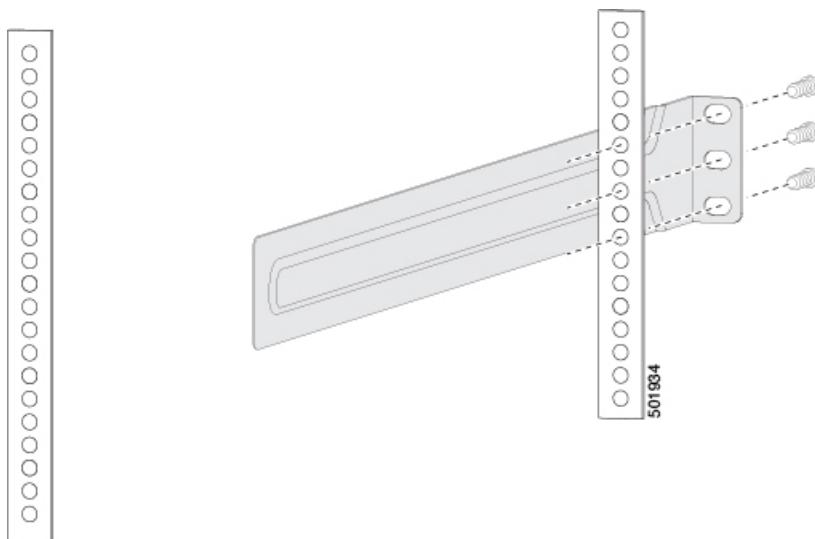
### Step 2

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 25](#) 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:

- 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 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.



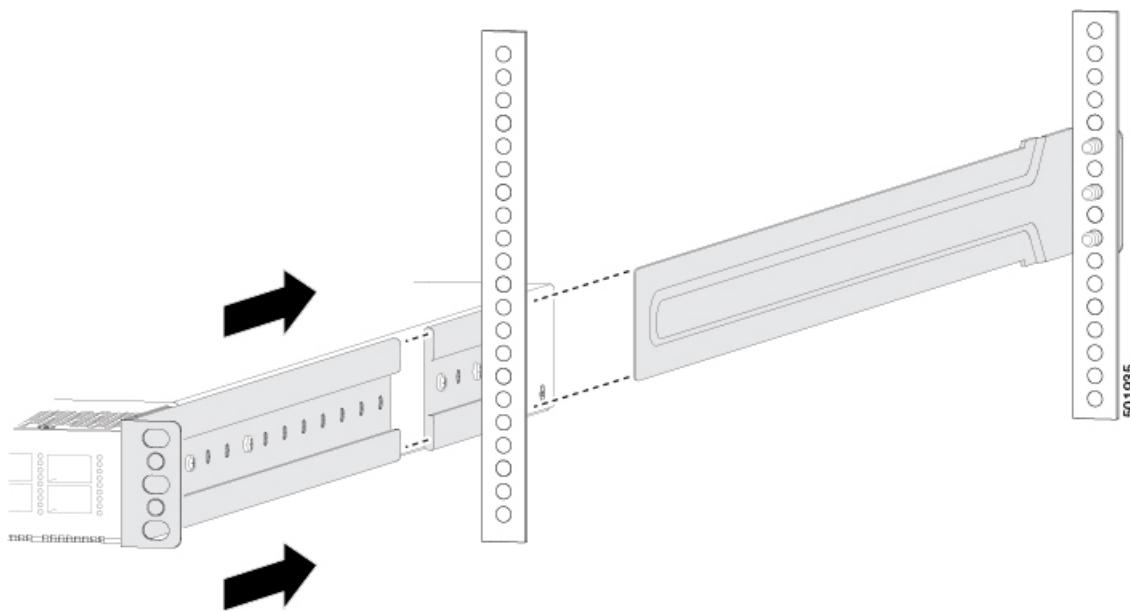
- c) Repeat Step 3 to attach the other slider rail to the other side of the rack.

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

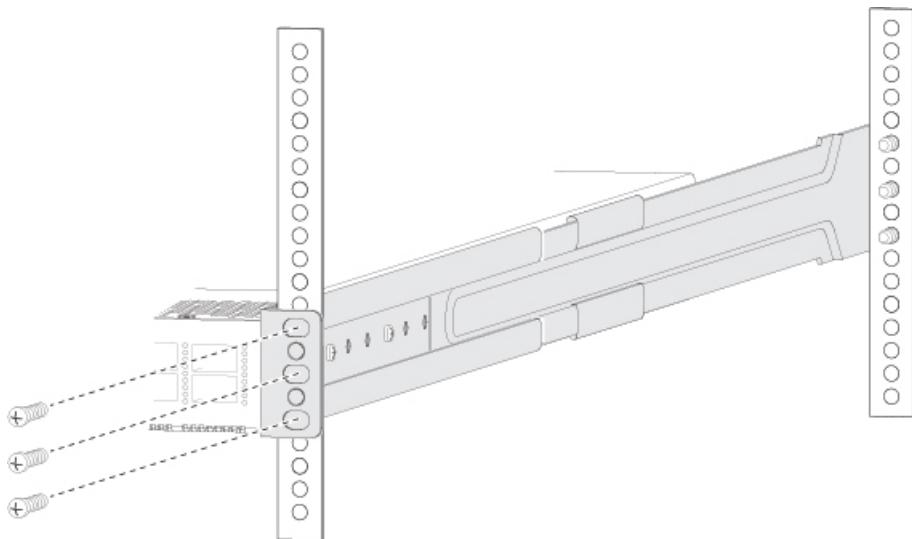
Insert the switch into the rack and attach it as follows:

- 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).



- 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).

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



- 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.

---

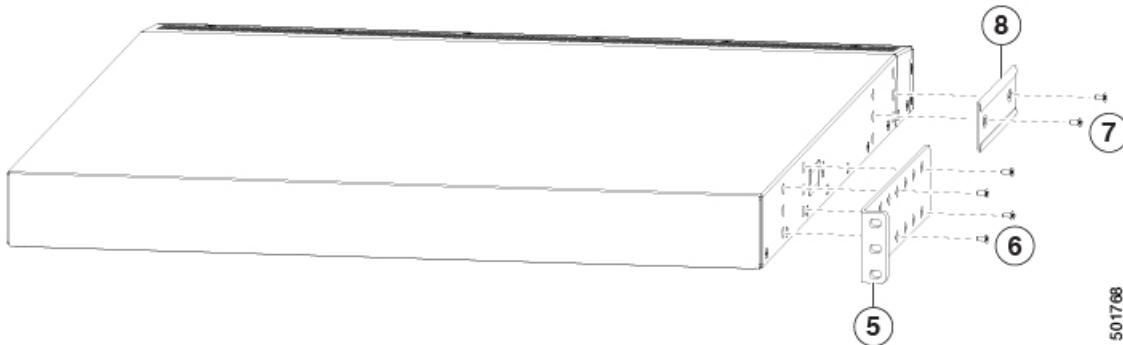
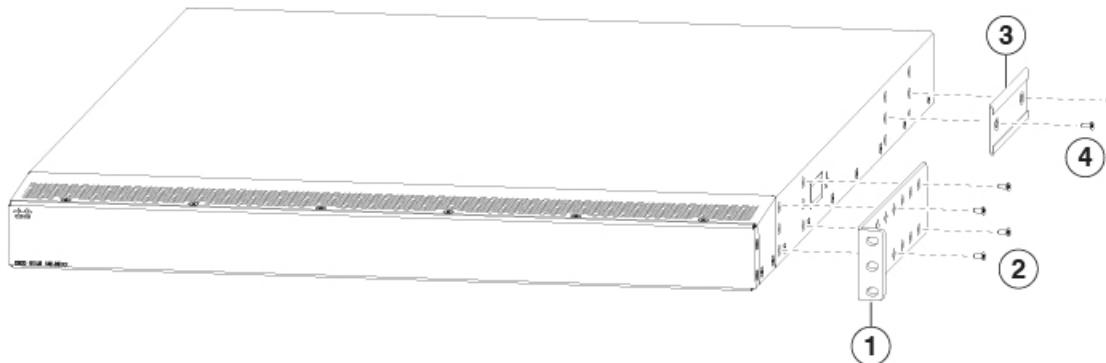
**Step 1**

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).



501768

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

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

- 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.

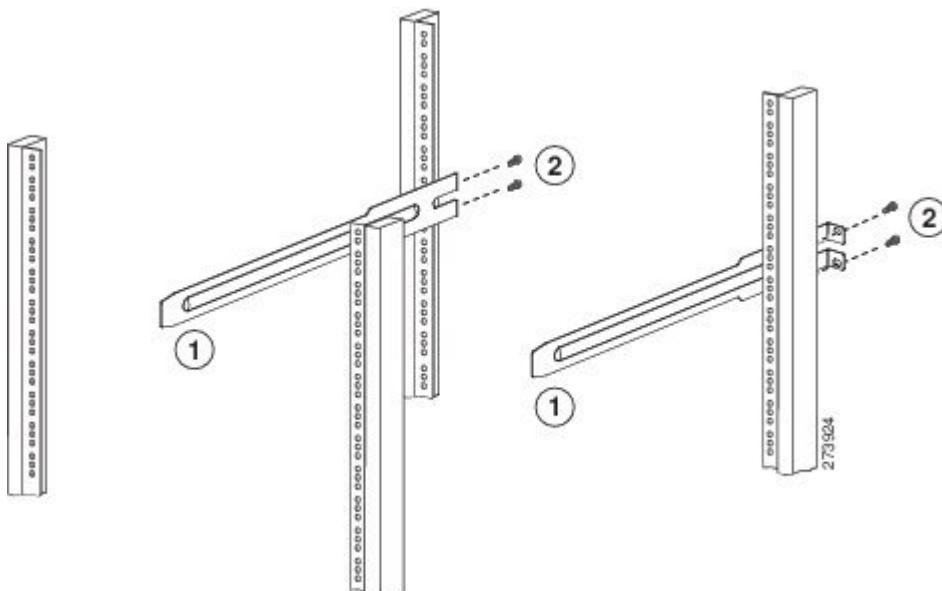
### Step 3

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 25](#) 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.



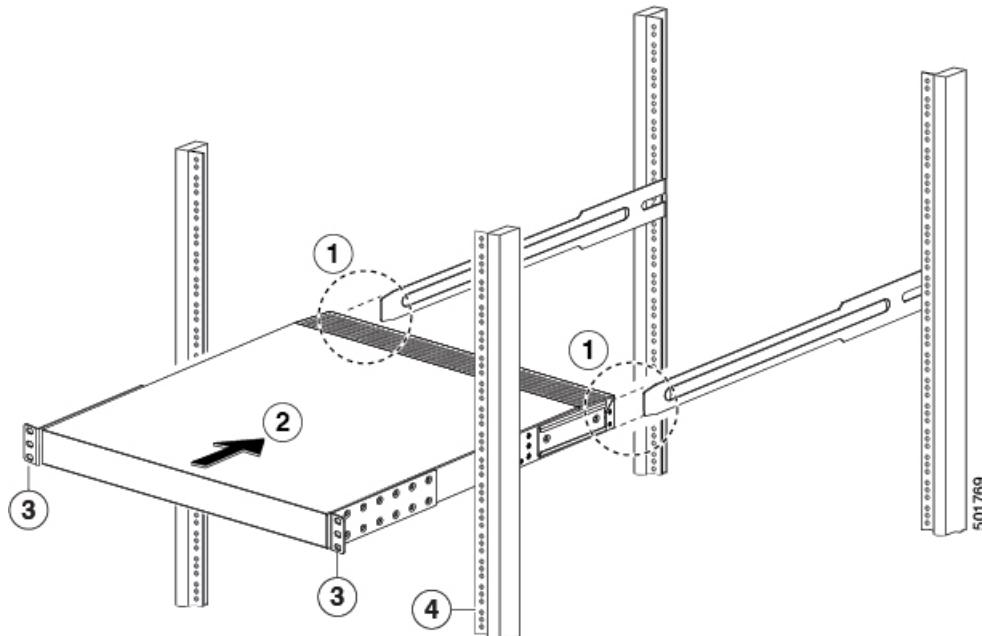
1	Slider rail with screw holes aligned to screw holes in rack	2	Two customer-supplied 12-24 or 10-32 screws used to attach each slider rail to the rack
---	---	---	---

- 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:

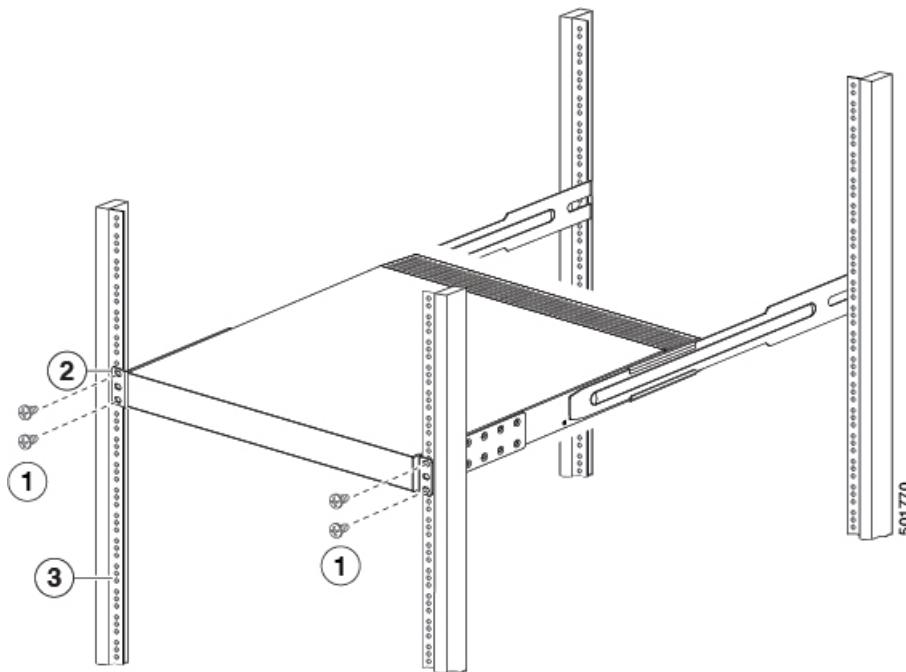
- Holding the switch with both hands, position the two rear rack-mount brackets on the switch between the rack or cabinet posts that do not have slider rails attached to them (see the following figure).



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.

- 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.
- 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).

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



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

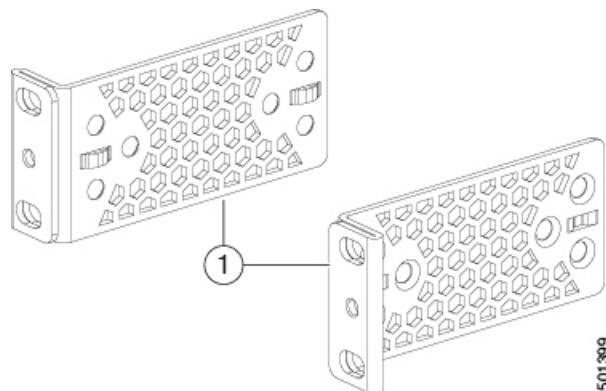
If you attached a grounding wire to the chassis grounding pad, connect the other end of the wire to the facility ground.

## 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=)	
---	------------------------------------	--

## SUMMARY STEPS

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

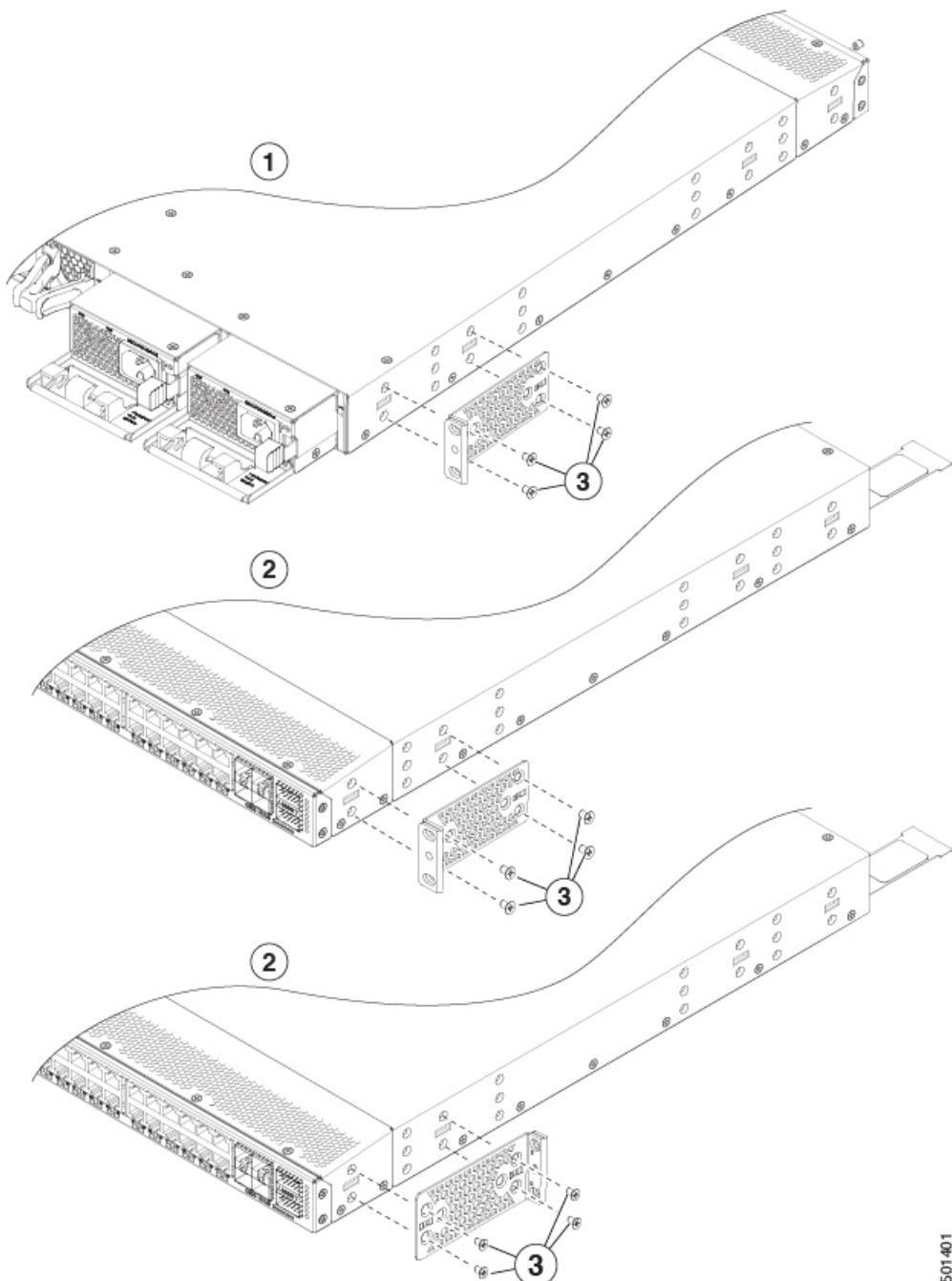
## DETAILED STEPS

---

### 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.

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



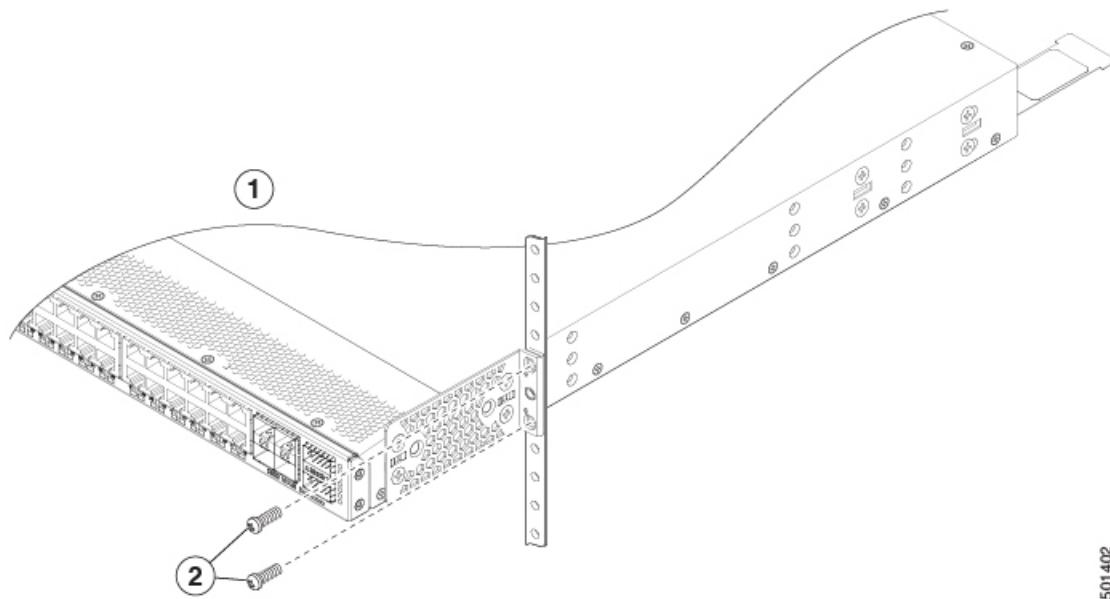
501401

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.

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



1	Front-mounting position	2	M4 screws (2 each side)
---	-------------------------	---	-------------------------

## Installing a 2 (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.

Before moving or lifting the chassis, follow these guidelines:

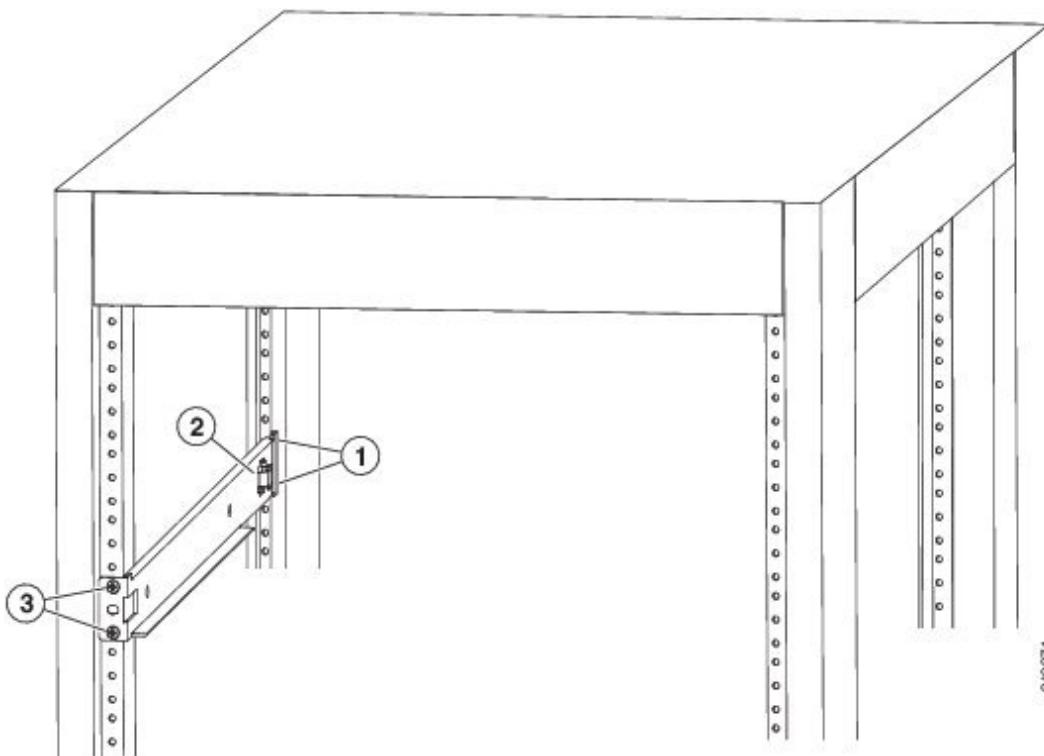
- Ensure that all cables are disconnected from the switch.
- Ensure that there is adequate space around the switch for servicing and airflow.
- Ensure that you have solid footing and that the weight of the switch is evenly distributed between your feet.
- Lift the switch slowly, keeping your back straight. Lift with your legs, not with your back. Bend at the knees, not at the waist.

**Step 1** Attach the bottom-support rails on the rack as follows:

- Position an expanding set of bottom-support brackets on the rack with each end touching a vertical mounting rail on the front and rear of the rack. Ensure that the chassis stop is on the side of the chassis where you plan to position the power supply and fan modules when you install the chassis (see the following figure).

## Installing a 2 (RU) Chassis in a Four-Post Rack

**Figure 1: Positioning an Expanding Bottom-Support Rail Set**



39371

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		

- b) Holding the bottom-support rail level, attach the rail to the front and rear vertical mounting rails using four customer-supplied screws that are appropriate for the rack (use two screws for each vertical mounting rail), and tighten each screw to the appropriate torque setting for that screw.

Typically, you use one of the following types of screws and the associated torque settings when tightening them:

- M4 screws—use 12 in-lb (1.36 N·m) of torque
- M6 screws—use 40 in-lb (4.5 N·m) of torque
- 10-32 screws—use 20 in-lb (2.26 N·m) of torque

If the rack requires another type of screw, use the appropriate torque setting for that type of screw.

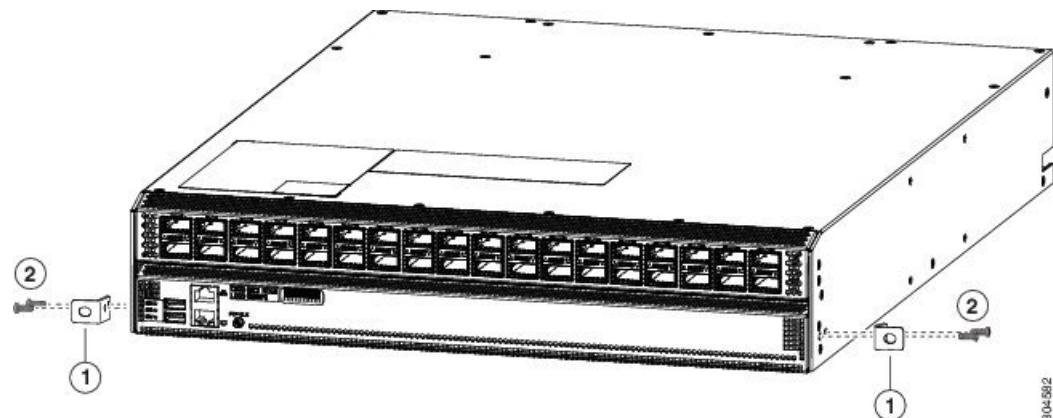
- c) Repeat Steps 1a and 1b to attach the other expanding bottom-support rail to the other side of the rack at the same level as the attached bottom-support rail.

**Note** Verify that the two sets of bottom-support rails are level with each other before going to the next step.

### Step 2

Attach two front-mount brackets to the sides of the chassis as follows:

- a) Align the two holes in one side of a front-mount bracket to two holes on the left or right side of the chassis as shown in the following figure.

*Figure 2: Aligning and attaching Front-Mount Brackets to the Chassis*

1	Front rack-mount bracket	2	2 M4 x 6 mm screws
---	--------------------------	---	--------------------

- b) Use two M4 x 6 mm screws to attach the bracket to the chassis and tighten each screw to 12 in-lb (1.36 N·m) of torque.
- c) Repeat Steps 2a and 2b to attach the other front-mount bracket to the other side of the chassis.

**Step 3**

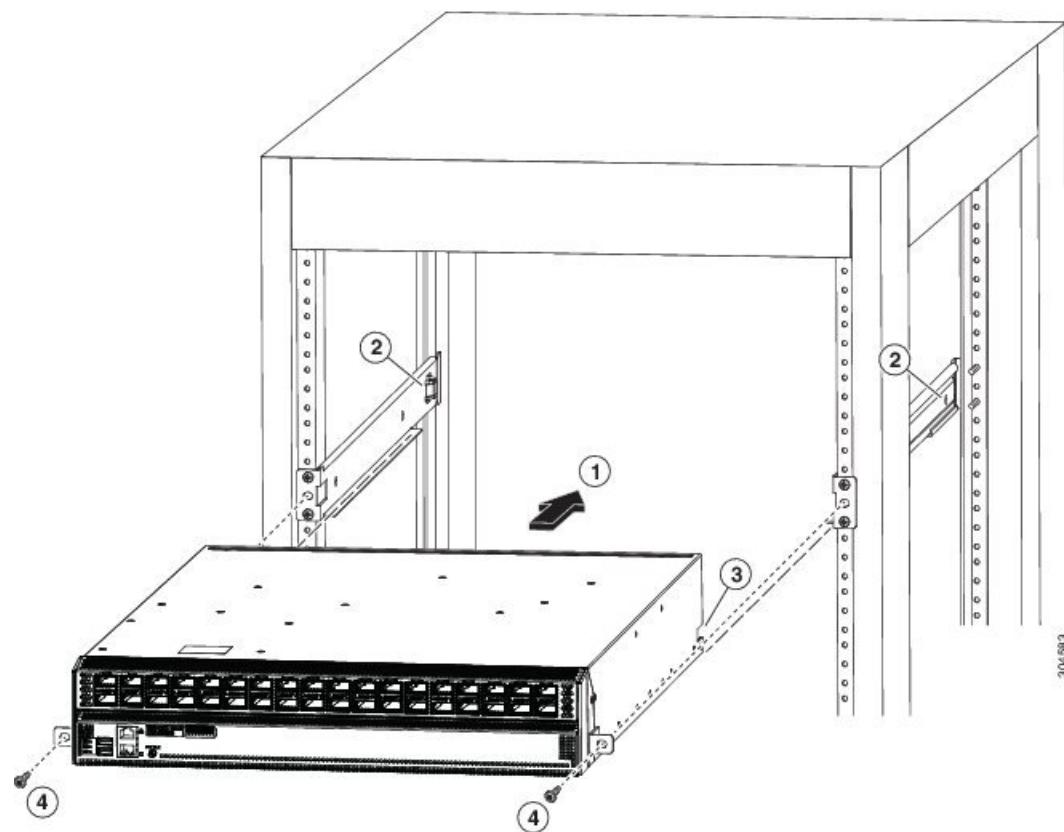
Install the chassis in the rack as follows:

- a) Slide the power supply end of the chassis onto the installed bottom-support rails as shown in the following figure.

When you have fully pushed the chassis all the way onto the bottom-support rails, the chassis stops on the bottom-support rails insert into the chassis notches and the front-mount brackets touch the front vertical mounting rails.

## Installing a 2 (RU) Chassis in a Four-Post Rack

**Figure 3: Sliding the Chassis onto the Bottom-Support Rails**



304-593

1	Slide the power-supply end of the chassis onto the bottom-support rails so that the chassis stops insert into the chassis notches.	3	Receiving notches on each side of the chassis for the chassis stops on the bottom-support rails.
2	Chassis stops	4	Rack-mount screw

- b) Use two screws that are appropriate for the rack to attach the front-mount brackets to the rack (one screw for each mounting bracket).

Typically, you use one of the following types of screws and the associated torque settings when tightening them:

- M4 screws—use 12 in-lb (1.36 N·m) of torque
- M6 screws—use 40 in-lb (4.5 N·m) of torque
- 10-32 screws—use 20 in-lb (2.26 N·m) of torque

If the rack requires another type of screw, use the appropriate torque setting for that type of screw.

# 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, 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.

## 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.

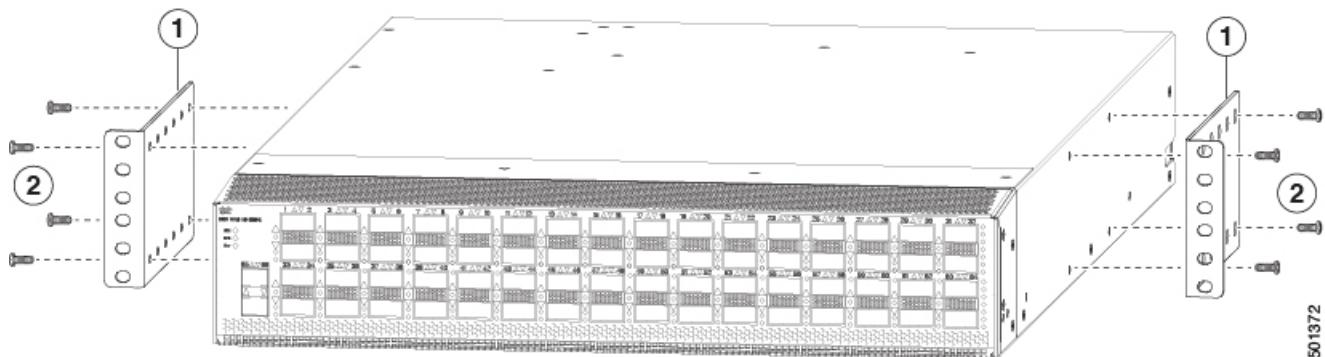
## Installing a 2 (RU) Chassis in a Two-Post Rack

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.



501372

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.
---	---	---	--

**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).

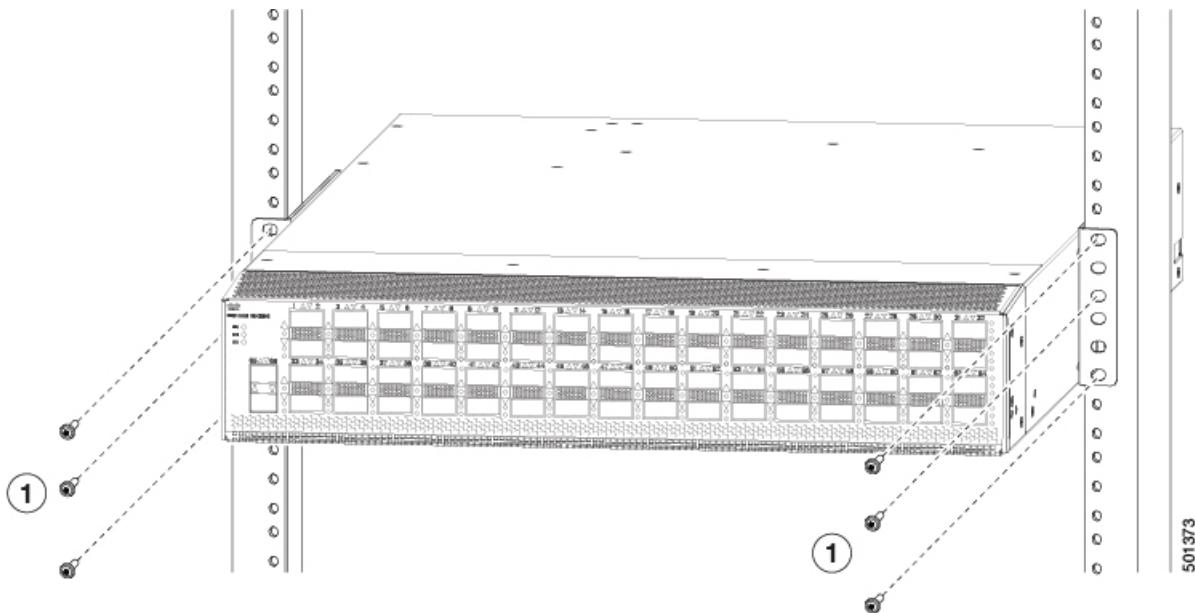
**Step 3**

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.	
---	--	--

**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.



**Note** An electrical conducting path shall exist between the product chassis and the metal surface of the enclosure or rack in which it is mounted or to a grounding conductor. Electrical continuity shall be provided by using thread-forming type mounting screws that remove any paint or non-conductive coatings and establish a metal-to-metal contact. Any paint or other non-conductive coatings shall be removed on the surfaces between the mounting hardware and the enclosure or rack. The surfaces shall be cleaned and an antioxidant applied before installation.

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**

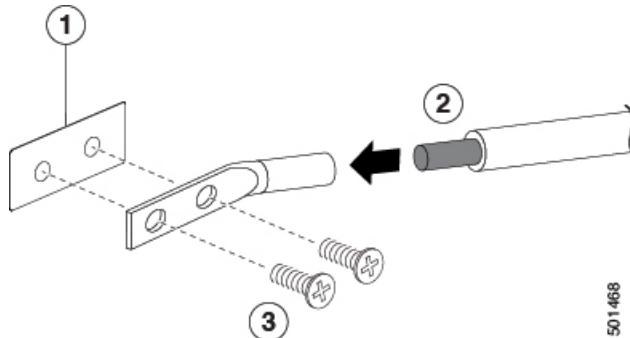
Before you can ground the chassis, you must have a connection to the earth ground for the data center building.

**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.



501468

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.

**Starting the Switch****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
-