



Installing and Removing Power Supplies

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Power Supply Overview

You can install two types of power supplies in the chassis:

Figure 1: Cisco Catalyst 6840-X AC Input Power Supply

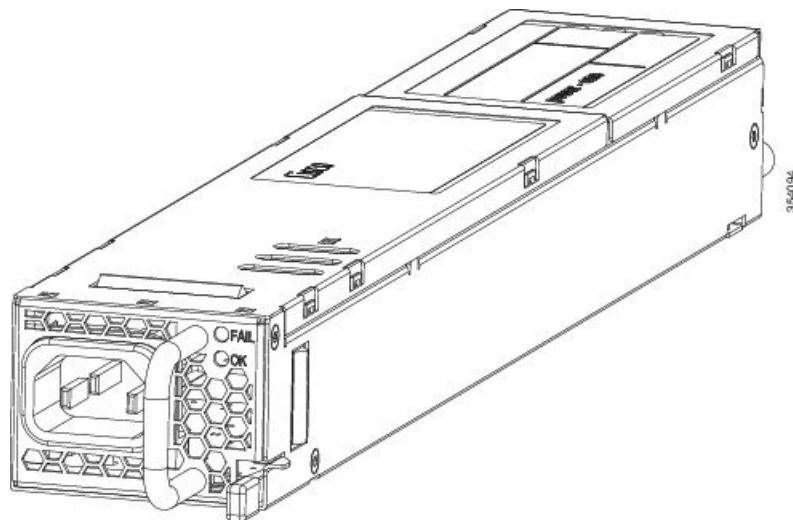
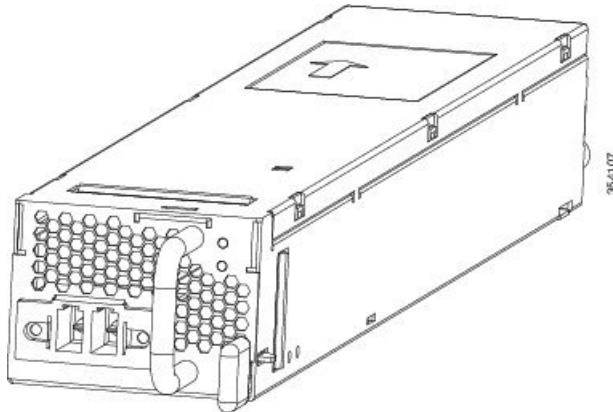


Figure 2: Cisco Catalyst 6840-X DC Input Power Supply



The switch chassis has two slots in which you can install power supplies using any of the following combinations:

- Two AC-input power supplies
- Two DC-input power supplies
- One AC-input power supply and one DC-input power supply
- One AC-input power supply (leaving the blank cover on the other slot)
- One DC-input power supply (leaving the blank cover on the other slot)



Note If you leave any power supply slots empty, you must ensure that the blank cover is installed in that slot to maintain the designed airflow.

This table lists the power supply models.

Part Number	Description
C6840-X-750W-AC=	Cisco Catalyst 6840-X power supply AC-750W
C6840-X-750W-DC=	Cisco Catalyst 6840-X power supply DC-750W
C6840-X-1100W-AC=	Cisco Catalyst 6840-X power supply AC-1100W
C6840-X-1100W-DC=	Cisco Catalyst 6840-X power supply DC-1100W

The power supplies can work together in Redundant Mode, in which each power supply operates at approximately 50 percent of its capacity, no greater than 60 percent and no less than 40 percent. If one power supply fails, the other power supply can provide power for the entire system on its own. This is the default and recommended mode for production.

Installing Power Supplies

You follow the same steps to install the AC-input and DC-input power supplies, but you must ground them differently.

Before You Begin

- The switch chassis must be installed in a cabinet or rack that is secured to the data center.
- Remove the power supply from its shipping container and remove any packaging.
- You need the following additional tools and equipment:
 - Nut driver attachment for number 1 Phillips-head screwdriver or ratchet wrench with torque capability (used only for DC-input power supplies).
 - For the DC-input power supply, you need four power cables sized to reach the DC power source or power interface unit (PIU).
 - Grounding wire — Size this wire to meet local and national installation requirements. For U.S. installations, you must use a 8-24 AWG copper conductor. For installations outside the U.S., consult your local and national electrical codes. The length of the grounding wire depends on the proximity of the switch to proper grounding facilities.

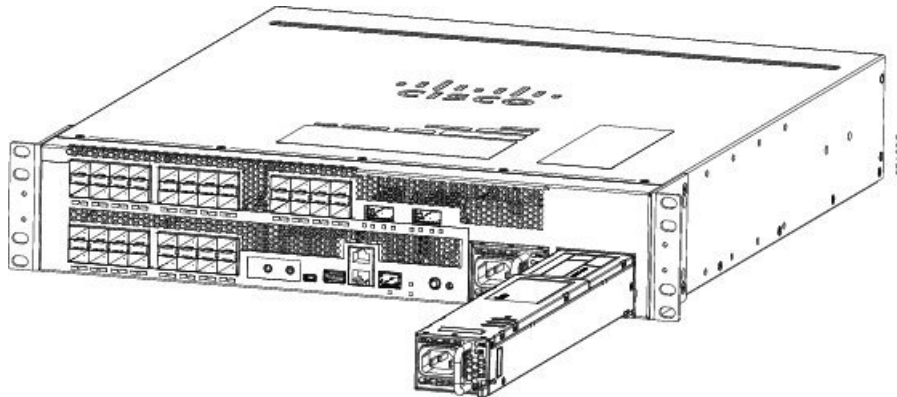
Inserting the Power Supply

To insert the power supply into the chassis, follow these steps:

Procedure

- Step 1** Remove the blank cover and store it for future use.
- Step 2** Verify that the power supply is not connected to any power sources.
- Step 3** Hold the handle on the power supply with one hand and position the power supply with its back end at the open power supply bay. See the figure for an example (AC power supply is shown as an example, DC power supply can be installed in the same way).
- Step 4** Slide the unit all the way into the power supply bay until the release latch on the front of the power supply clicks and prevents you from moving the power supply in or out of the chassis.

Figure 3: Installing the Power Supply



1	AC power supply
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Connecting to the Power Source

You follow the same steps to install the AC-input and DC-input power supplies, but you must ground them differently.

- AC-input power supply—It is automatically grounded when you connect its power cable to the power supply and the power source.
- DC-input power supply—You do not connect the power supply directly to the earth ground.

You use one power cord for each power supply to connect the power supply to its power source.

Before You Begin

Before you connect power supplies to power sources, ensure the following:

- The chassis is connected to an earth ground. See [Establishing the System Ground](#).
- You have receptacles for the power sources within reach of the power supply cables.
- If you are connecting to a DC power, check that you are using 8-24 AWG power cables to connect to the power supply. The 8-24 AWG wire size applies to the negative [-], and positive [+] cables that connect to negative and positive apertures on the connector. You have to procure the power cable.
- If you are installing more than one DC-input power supply, each must be protected by a dedicated circuit breaker or a fuse that is sized according to the power supply input rating and the local or national electrical code requirements.
- The power sources are rated as follows:
 - For North American AC-input installations—10 A with 110 V circuits.
 - For North American DC-input installations—(-48 VDC nominal at 37 A in North America (operating range: -40.5 to -56 VDC).

- For international installations—Size the circuits by local and national standards.
- The power supply is already inserted into the chassis.



Caution Ensure that the power source is OFF. As an added precaution, place the appropriate safety flag and lockout devices at the source power circuit breaker, or place a piece of adhesive tape over the circuit breaker handle to prevent accidental power restoration while you are working on the circuit.



Warning Before performing any of the following procedures, ensure that power is removed from the DC circuit. Statement 1003

Connecting to an AC Power Source

To connect to a power source, follow these steps:



Warning Take care when connecting units to the supply circuit so that wiring is not overloaded. Statement 1018

Procedure

Step 1 Plug the power cable into the power supply.

Step 2 Plug the other end of the power cable into an power source supplied by the data center.

Note When using redundant mode, connect each power supply to a separate power source.

Step 3 Verify that the power supply is receiving power and outputting DC power by checking that the OK LED is on and is not yellow or blinking green. For an explanation of all the power supply LEDs and the conditions that they indicate, see [Power Supply LEDs](#).

When you first activate the power supply, you can verify the functionality of the LEDs by checking that each LED turns on for a couple of seconds. If the OK LED is flashing green, check the AC power connections on the power supply and the AC power source.

Connecting to a DC Power Source

Before you connect DC power supplies to power sources, you need to attach the DC connection wires to the DC power connector. To wire the connector:



Warning Before performing any of the following procedures, ensure that power is removed from the DC circuit. **Statement 1003**

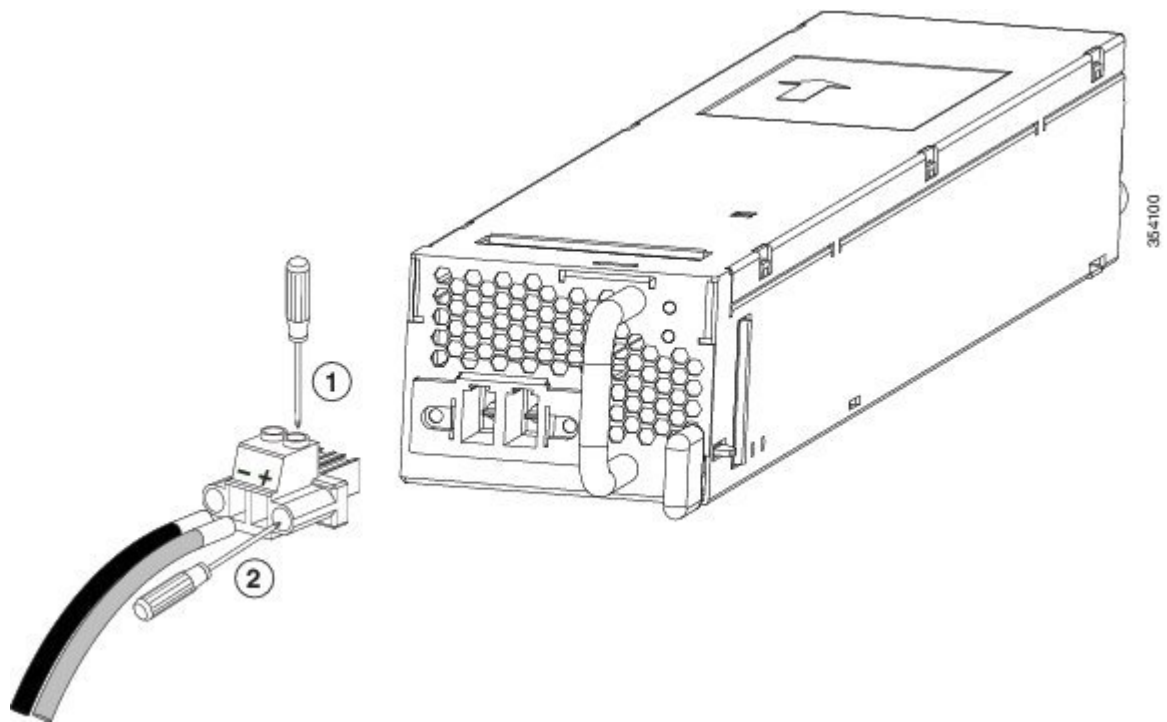


Warning Hazardous voltage or energy may be present on DC power terminals. Always replace cover when terminals are not in service. Be sure uninsulated conductors are not accessible when cover is in place. **Statement 1075.**

Procedure

- Step 1** Turn off the power at the circuit breakers for the portions of the DC grid power that you are connecting to and verify that all of the LEDs on the power supplies are off.
- Step 2** Using a 1/8" flat head screwdriver or No. 1 Phillips head screwdriver, loosen the set screws on the connector to freely accept the power wires. The connector will accept 8-24 AWG wires, use what your local electrical code calls for.
- Step 3** Strip 1/2" of insulation off the DC wires that you are using.
- Step 4** Insert the black (DC negative) wire into the right aperture on the connector and tighten down the connection set screw. Finger tight or about 3 ft./lbs should be sufficient.
- Step 5** Insert the red (DC positive) wire into the left aperture on the connector and tighten down the connection set screw. Do not tighten over 0.7 Nm.

Figure 4: Connecting to a DC Power Source



- Step 6** For the powered down circuits connected to the power supplies, turn on the power at the circuit breaker. The LEDs should flash and then the INPUT OK LED on the power supply should turn on.

Removing Power Supplies

Procedure

- Step 1** Turn off the power to the power supply that you are removing, as follows:
- If you are removing a DC-input power supply, ensure that the power is turned off at the power source by turning off the power for that circuit.
- Step 2** Detach the power and ground cables, as follows:
- For the AC-input power supply, unplug the power cables that are attached to the power supply and the power source.
 - For the DC-input power supply, remove the power cables from the power source.
- Step 3** Remove the power supply from the chassis, as follows:
- Press the ejector latch on the right of the power supply.
 - Pull the power supply partially out of the slot by its handle.
 - Pull the power supply fully from the slot.

Caution If you intend to operate the switch without installing another power supply in the empty slot, then you must reinstall the blank cover over the empty power supply slot to ensure proper air flow in the system and for safety reasons.

Finding the Serial Number

If you contact Cisco Technical Assistance, you need to know the serial number. These figures show where the serial number is located. You can also use the **show version** privileged EXEC command to see the serial number.

Figure 5: Serial Number on the AC Power Supply

