



Installation Notes for Catalyst 3750-E, Catalyst 3560-E Switches and RPS 2300 Power Supply Modules

This document provides the removal and installation procedures for the power supply modules used with the Catalyst 3750-E, the Catalyst 3560-E switches, and the Cisco Redundant Power System 2300 (RPS 2300).

For more information about using the power supply modules with a switch or an RPS 2300, see the *Catalyst 3750-E and Catalyst 3560-E Switch Hardware Installation Guide* and the *Cisco RPS 2300 Hardware Installation Guide* on Cisco.com.

For translations of the safety warnings that appear in this publication, see the *Regulatory Compliance and Safety Information for the Catalyst 3750-E and Catalyst 3560-E Switch* or the *Cisco RPS 2300 Hardware Installation Guide* that shipped with the product and that are also available on Cisco.com.

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Product Overview

Table 1 describes the power supply modules.

Table 1 Power Supply Module Part Numbers and Description

Part number	Description
C3K-PWR-1150WAC	1150-W AC power supply module
C3K-PWR-750WAC	750-W AC power supply module
C3K-PWR-265WAC	265-W AC power supply module
C3K-PWR-265WDC	265-W DC power supply module

Table 2 describes the supported power supply modules for the switches and the RPS 2300.

For more information about which RPS 2300 power supply modules to use for specific switch support, see the *Cisco Redundant Power System 2300 Hardware Installation Guide*.

Table 2 Power Supply Modules Used with Switches and RPS 2300

Catalyst 3750-E and Catalyst 3560-E Switches and RPS 2300	1150 W AC Power Supply	750 W AC Power Supply	265 W AC Power Supply	265 W DC Power Supply
48-port PoE switch ¹	Primary or spare	Spare or primary	Not allowed	Not allowed
24-port PoE switch	Spare or primary	Primary or spare	Not allowed	Not allowed
48-port non-PoE switch	Spare	Spare	Primary or spare	Primary or spare
24-port non-PoE switch	Spare	Spare	Primary or spare	Primary or spare
RPS 2300 ²	Primary	Primary	Not allowed	Not allowed

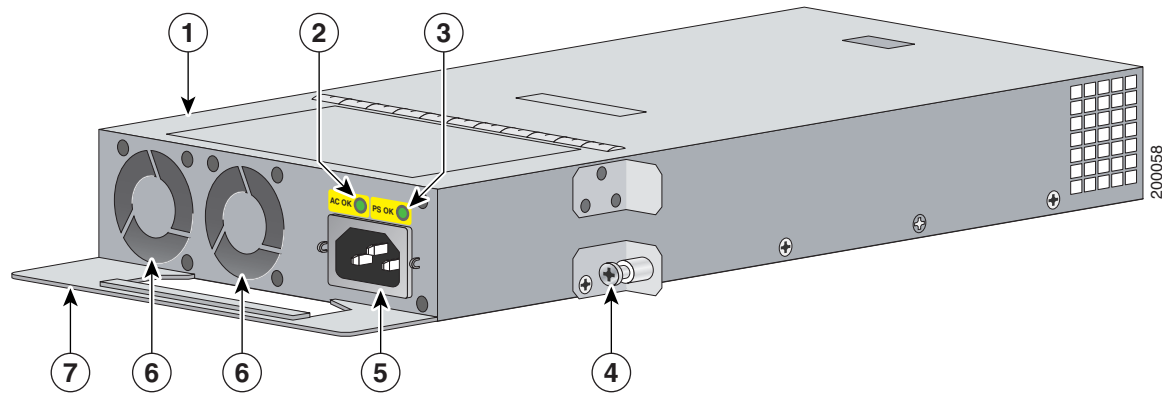
- For full 15.4-W support on a 48-port PoE switch, you must use the 1150-W AC power supply module in the switch.
- If only one power supply module is installed in the RPS 2300, you must install the blank insert in the empty power supply slot.

The 750-W and 265-W AC power supply modules are autoranging units that support input voltages between 100 and 240 VAC. The 1150-W power supply module is an autoranging unit that supports input voltages between 115 and 240 VAC. The DC power supply module has dual input feeds (A and B) and supports input voltages between 36 and 72 VDC.

The AC power supply modules include a power cord for connection to an AC power outlet. The 1150-W and 750-W modules use a 16-AWG cord (only North America). All other modules use an 18-AWG cord. The DC power supply module requires wiring to a DC-power source.

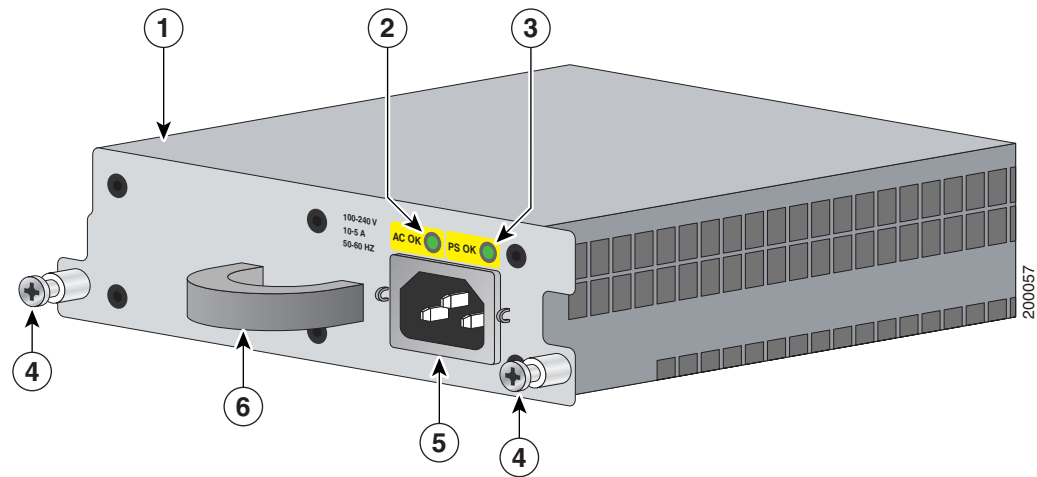
Figure 1 to Figure 3 show the power supply modules.

Figure 1 1150-W AC Power Supply Module



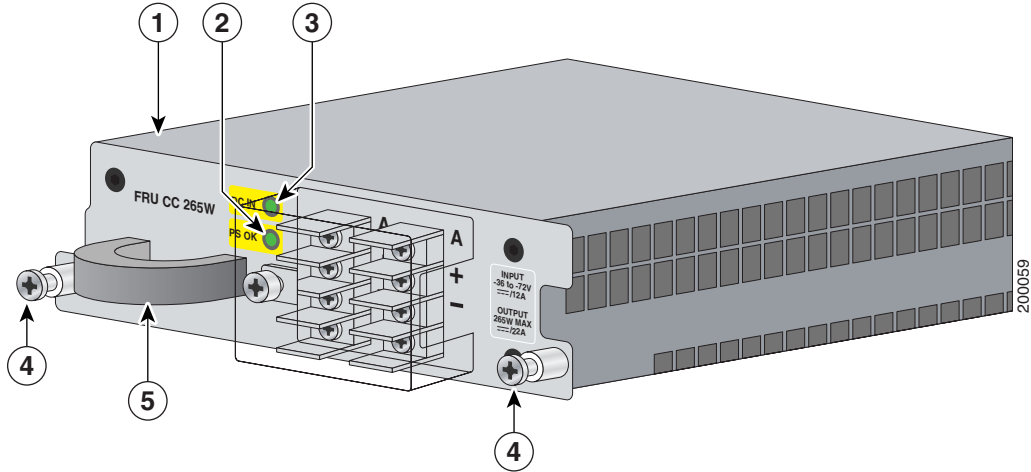
1	1150-W AC power supply module	5	AC power connector
2	AC OK LED	6	Cooling fans
3	PS OK LED	7	Extraction handle
4	Captive screw		

Figure 2 750-W AC and 265-W AC Power Supply Modules



1	750- or 265-W AC power supply module	4	Captive screws
2	AC OK LED	5	AC power connector
3	PS OK LED	6	Extraction handle

Figure 3 265-W DC Power Supply Module



1	265-W DC power supply module	4	Captive screws
2	Input power terminals	5	Extraction handle
3	DC OK and PS OK LEDs		

The power supply modules have two status LEDs. [Table 3](#) lists the LED colors and their meanings.

Table 3 Power Supply Module LEDs

AC-Power Supply Module LEDs			
AC OK	Description	PS OK	Description
Off	No AC input power	Off	Power supply failure
Green	AC input power present	Green	Power output to switch active
		Red	No output power to switch
DC-Power Supply Module LEDs			
DC IN	Description	PS OK	Description
Off	No DC input power	Off	Power supply failure
Green	DC input power present	Green	Power output to switch active

Power Supply Module Installation

This section describes how to remove and install a new or replacement power supply module in Catalyst 3750-E and Catalyst 3560-E switches, or an RPS 2300. See these sections:

- [Tools and Equipment, page 5](#)
- [Installation Guidelines, page 5](#)
- [Installing an AC-Power Supply, page 6](#)
- [Installing a DC-Power Supply \(Only Catalyst 3750-E and 3560-E Switches\), page 8](#)

Tools and Equipment

Obtain these necessary tools and equipment:

- Ratcheting torque screwdriver with a number-2 Phillips head that exerts up to 15 pound-force inches (lbf-in.) or 240 ounce-force inches (ozf-in.) of pressure. For 1150-W power supply modules, the screwdriver shaft length should be at least 6-inches long.
- Power-supply power-cord retainer in the switch accessory kit.

Installation Guidelines

Observe these guidelines when removing or installing a power supply module:

- Do not force the power supply module into the slot. This can damage the pins on the switch or the RPS 2300 if they are not aligned with the unit.
- A power supply module that is only partially connected to the switch or the RPS 2300 can disrupt the system operation.
- Remove power from the power supply module before removing or installing the module.
- The switch supports hot swapping of the power supply when the switch is connected to an RPS 2300 that can provide backup power. You can remove and replace the power supply without interrupting normal switch operation. When you insert a new power supply in the switch, there is a 5-second delay while the switch software polls the device. The switch power supply then automatically provides power, and the RPS is available to power other devices.
- The RPS 2300 supports hot swapping of the power supply module when an external device is connected to it.
 - If the RPS 2300 is not backing up an external device, you can remove and replace the power supply module without disconnecting the system power.
 - If two 1150-W power supply modules are installed in the RPS 2300, you can remove one of the modules when backing up an external device.
 - The RPS 2300 does not support hot swapping of the power supply module when two 750-W power supply modules are installed and the RPS 2300 is backing up a device with an 1150-W power supply.
- Make sure that you tighten the power supply module captive screws before moving the switch or the RPS 2300.
- When replacing the 1150-W or the 750-W power supply module, verify that you are using the correct power cord (CAB-16AWG-AC, only North America).


Warning

Do not reach into a vacant slot or chassis while you install or remove a module or a fan. Exposed circuitry could constitute an energy hazard. Statement 206


Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Statement 1030


Warning

Do not work on the system or connect or disconnect cables during periods of lightning activity. Statement 1001

Installing an AC-Power Supply

To remove and install an AC-powered power supply module, follow these steps:

- Step 1** Turn off the power at its source.
- Step 2** Detach the power cord retainer from the power cord.
- Step 3** Remove the power cord from the power connector.
- Step 4** Use a Phillips screwdriver to loosen the two captive screws at the lower edge that secure the power supply to the chassis.


Caution

Do not leave the power supply slot open for more than 90 seconds while the switch or the RPS 2300 is operational.

- Step 5** Remove the power supply module from the power slot by pulling on the extraction handle.
- Step 6** Insert the new power supply into the power supply slot, and gently push it into the slot ([Figure 4](#) and [Figure 5](#)). When correctly inserted, the power supply is flush with the panel. Note: the 1150-W power supply module extends 3.6 inches (9.14 cm) from the panel.

Figure 4 *Inserting an AC-Power Supply into a Switch*

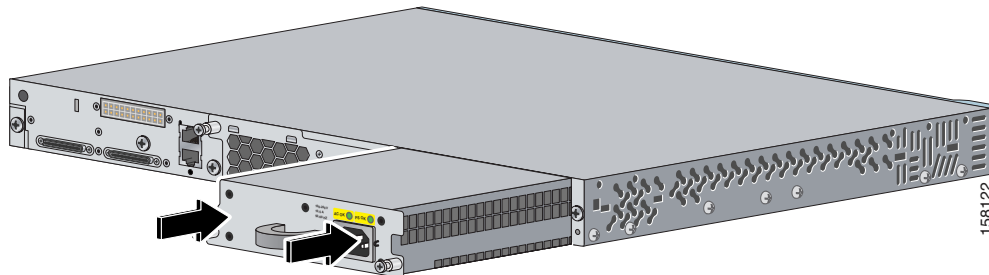
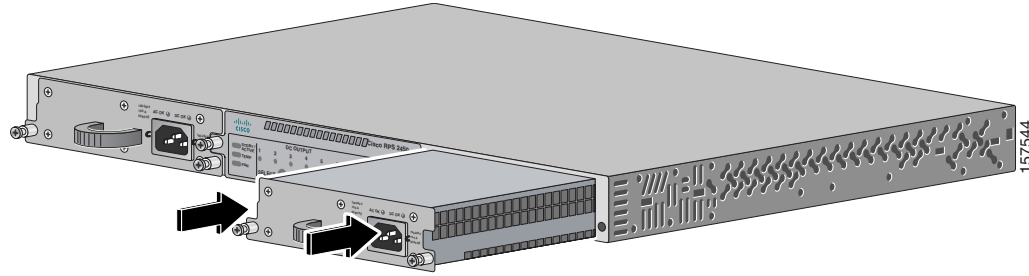


Figure 5 Inserting an AC-Power Supply into an RPS 2300



- Step 7** Align the two captive screws with the screw holes in the panel. Using a ratcheting torque screwdriver, torque each screw to 10 lbf-in. (160 ozf-in.).
- Step 8** Connect the power cord to the power supply and to an AC-power outlet.
- Step 9** (Optional) Snap the AC power cord retainer into place to secure the power cord ([Figure 6](#) and [Figure 7](#)).

Figure 6 AC-Power Supply and Power Cord Retainer Installed in a Switch

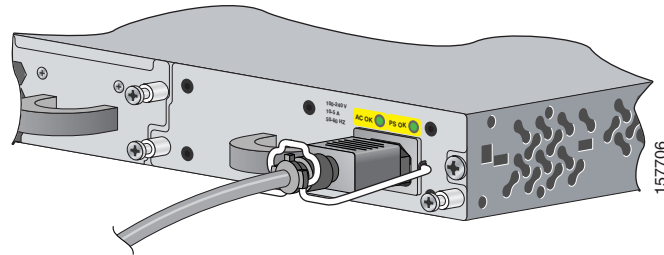
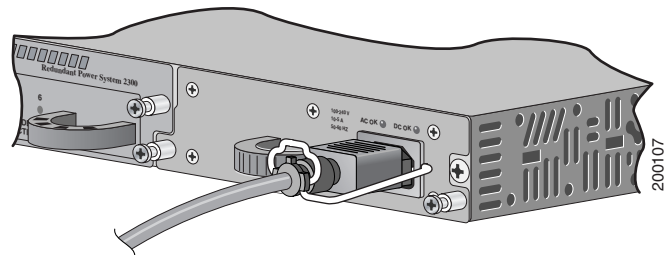


Figure 7 AC-Power Supply and Power Cord Retainer Installed in the RPS 2300



- Step 10** Turn on the power at the power source.
- Step 11** Confirm that the power supply AC OK LED is green. See [Table 3](#) for a description of the module LEDs.

Installing a DC-Power Supply (Only Catalyst 3750-E and 3560-E Switches)

To connect the switch to a DC-input power source, follow these steps:

1. [Preparing for Installation, page 8](#)
2. [Grounding the Switch, page 9](#)
3. [Installing the DC Power Supply in the Switch, page 10](#)
4. [Wiring the DC-Input Power Source, page 11](#)



Warning

An exposed wire lead from a DC-input power source can conduct harmful levels of electricity. Be sure that no exposed portion of the DC-input power source wire extends from the terminal block plug. Statement 122



Warning

Before connecting or disconnecting ground or power wires to the chassis, ensure that power is removed from the DC circuit. To ensure that all power is OFF, locate the circuit breaker on the panel board that services the DC circuit, switch the circuit breaker to the OFF position, and tape the switch handle of the circuit breaker in the OFF position. Use a voltmeter to test for 0 (zero) voltage at the power terminals on the chassis. Statement 196



Warning

This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 15 A. Statement 1005



Note

The grounding architecture of this product is DC-isolated (DC-I).

Preparing for Installation

Obtain these necessary tools and equipment:

- Ratcheting torque screwdriver with a number-2 and a number-1 Phillips head that exerts up to 15 pound-force inches (lbf-in.) or 240 ounce-force inches (ozf-in.) of pressure.
- Panduit crimping tool with optional controlled-cycle mechanism (model CT-720, CT-920, CT-920CH, CT-930, or CT-940CH).
- Wire-stripping tools.
- 12-gauge copper ground wire (insulated or noninsulated) when using the single-ground connection.
- 6-gauge copper ground wire (insulated or noninsulated) when using the dual-ground connection.
- Ground lug screw and lug ring in the switch accessory kit. For a dual ground connection, also use the dual-ground adaptor and dual-hole lug from the DC power supply accessory kit.
- Four leads of 16-gauge copper wire.
- Four round eyelet terminals or four fork-type terminals from the DC power supply accessory kit.

Grounding the Switch



Warning

This equipment must be grounded. 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. Statement 1024



Warning

When installing or replacing the unit, the ground connection must always be made first and disconnected last. Statement 1046



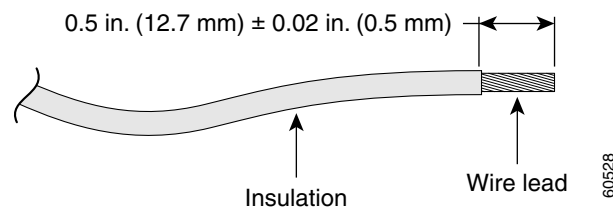
Caution

To make sure that the equipment is reliably connected to earth ground, follow the grounding procedure instructions.

Follow these steps to install either a single-ground lug or a dual-ground lug on the switch. Make sure to follow any grounding requirements at your site.

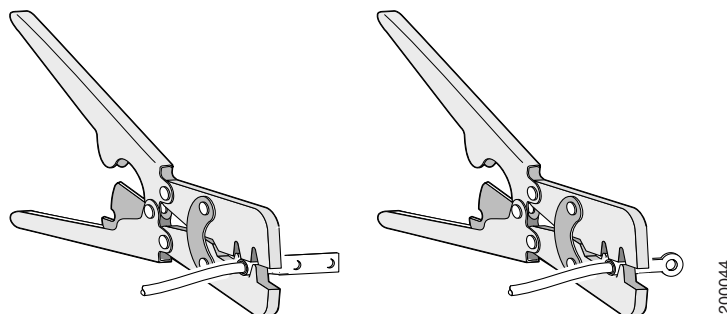
- Step 1** Locate the ground lug screw and the lug ring in the switch accessory kit. For a dual-ground connection, also locate the dual-ground adaptor and the dual-hole lug that ships with the DC power supply module.
- Step 2** If your ground wire is insulated, use a wire stripping tool to strip the 12-gauge or 6-gauge ground wire to 0.5 inch (12.7 mm) \pm 0.02 inch (0.5 mm). Use 12-gauge copper ground wire for the single-ground connection. Use 6-gauge copper ground wire for the dual-ground connection.

Figure 8 *Stripping the Ground Wire*



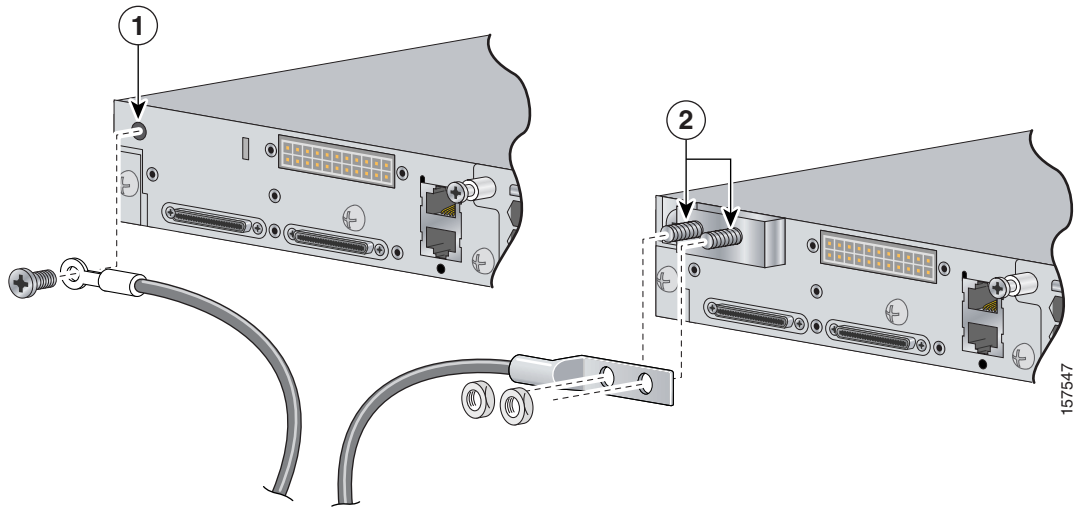
- Step 3** Slide the open end of the ground lug over the exposed area of the wire.
- Step 4** Using a Panduit crimping tool, crimp the ground lug to the wire.

Figure 9 *Crimping the Ground Lug*



- Step 5** Use the ground screw to attach the single-ground lug and wire assembly or the dual-ground adaptor to the switch rear panel. Using a ratcheting torque screwdriver, torque the ground-lug screw to 60 lbf-in. (960 ozf-in.) (Figure 10).
- Step 6** For a dual-ground adaptor, attach the dual-hole lug and wire assembly to the adaptor with the supplied nuts (Figure 10).

Figure 10 Attaching the Ground Lug and Wire Assembly



1	Single-ground screw and lug ring
2	Dual-ground adaptor and dual-hole lug

- Step 7** Connect the other end of the grounding wire to an appropriate grounding point at your site or to the rack.

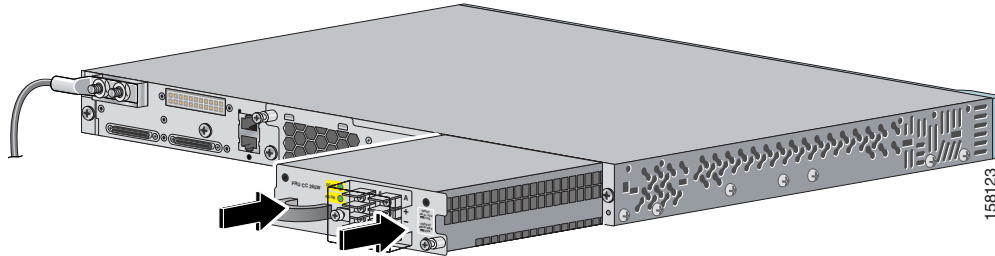
Installing the DC Power Supply in the Switch

To remove and install a DC-powered power supply module, follow these steps:

- Step 1** Turn off power at the DC circuits. To ensure that power is removed from the DC circuits, locate the circuit breakers for the DC circuits, switch the circuit breakers to the OFF position, and tape the circuit-breaker switches in the OFF position.
- Step 2** Use a number-2 Phillips screwdriver to remove the plastic safety cover from the power supply terminal blocks.
- Step 3** Use a number-1 Phillips screwdriver to remove the DC-input power wires from the power terminals.

- Step 4** Use a Phillips screwdriver to loosen the two captive screws at the lower edge that secure the power supply module to the switch chassis (Figure 11).
- Step 5** Remove the power supply module from the power slot by pulling on the extraction handle.
- Step 6** Insert the new power supply into the power supply slot, and gently apply pressure while pushing the module into the slot (Figure 11). When correctly inserted, the power supply is flush with the switch rear panel.

Figure 11 Inserting the a DC-Power Supply



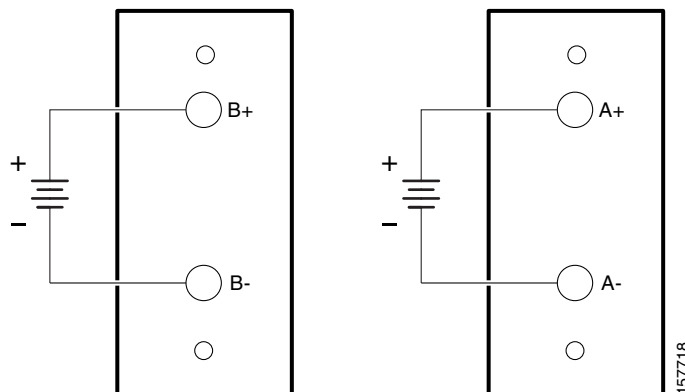
- Step 7** Align the two captive screws with the screw holes in the switch rear panel. Using a ratcheting torque screwdriver, torque each screw to 10 lbf-in. (160 ozf-in.).
- Step 8** Connect the input power as described in the “Wiring the DC-Input Power Source”.

Wiring the DC-Input Power Source

To wire the DC-power supply module to a DC-input power source, follow these steps.

- Step 1** Using a wire-stripping tool, strip each of the four wires coming from the DC-input power source to the appropriate length for either the round eyelet or the fork-type terminals.
- Step 2** Using a Panduit crimping tool, crimp the terminals to the 16-gauge DC-power input wires.
- Step 3** Connect the DC-input power terminals to the terminal blocks as shown in Figure 12. Make sure to match the polarity (negative to negative, positive to positive) when connecting the wires to the terminal blocks.

Figure 12 Source A Isolated From Source B with No Common Ground



- Step 4** Torque all terminal block screws to 5 lbf-in. (80 ozf-in.).
- Step 5** Replace the terminal block plastic safety cover, and torque the screw to 10 lbf-in. (160 ozf-in.).
- Step 6** Move the DC-power source circuit-breaker handles to the ON position.
- Step 7** Confirm that the power supply *DC OK* LED is green. See [Table 3](#) for a description of the module LEDs.

Technical Specifications

Table 4 Power Supply Module Environmental and Physical Specifications

Environmental Ranges	
Operating temperature	23 to 113° F (–5 to 45° C)
Storage temperature	–40 to 158° F (–40 to 70° C)
Relative humidity	10 to 95% (noncondensing)
Altitude	Up to 10,000 ft (3049 m)
Physical Specifications	
Weight	C3K-PWR-1150WAC: 5.6 lb (2.6 kg) C3K-PWR-750WAC: 3.9 lb (1.8 kg) C3K-PWR-265WAC: 3.3 lb (1.5 kg) C3K-PWR-265WDC: 3.5 lb (1.6 kg)
Physical Specifications	
Dimensions (H x D x W)	C3K-PWR-1150WAC: 1.65 x 14.90 x 6.0 in. (4.19 x 37.85 x 15.24 cm) C3K-PWR-750WAC: 1.65 x 11.4 x 6.0 in. (4.19 x 28.96 x 15.24 cm) C3K-PWR-265WAC: 1.65 x 11.4 x 6.0 in. (4.19 x 28.96 x 15.24 cm) C3K-PWR-265WDC: 1.65 x 11.4 x 6.0 in. (4.19 x 28.96 x 15.24 cm)

Table 5 AC-Power Supply Module Power Specifications

Power Specifications	
Maximum output power	C3K-PWR-1150WAC: 1150 W C3K-PWR-750WAC: 750 W C3K-PWR-265WAC: 265 W
Input voltage range and frequency	C3K-PWR-750WAC: 750 W, C3K-PWR-265WAC: 265 W: 100 to 240 VAC (autoranging), 47 to 63 Hz. C3K-PWR-1150WAC: 1150 W: 115 to 240 VAC (autoranging) 47 to 63 Hz.

Table 5 AC-Power Supply Module Power Specifications (continued)

Input current	C3K-PWR-1150WAC: 12–6 A C3K-PWR-750WAC: 10–5 A C3K-PWR-265WAC: 5–2.5 A
Output ratings	C3K-PWR-1150WAC: 12 V@25 A, –52 V @ 16.4 A C3K-PWR-750WAC: 12 V@25 A, –52 V @ 8.75 A C3K-PWR-265WAC: 12 V@22 A
Total input BTU	C3K-PWR-1150WAC: 4725 Btus per hour, 1385 W C3K-PWR-750WAC: 3000 Btus per hour, 880 W C3K-PWR-265WAC: 1130 Btus per hour, 330 W

Table 6 DC-Power Supply Module Power Specifications

Power Specifications	
Maximum output power	C3K-PWR-265WDC: 265 W
Input current	C3K-PWR-265WDC: 12 A
DC input voltage	C3K-PWR-265WDC: –36 to –72 VDC
Output ratings	C3K-PWR-265WDC: 12 V@22 A
Total input BTU	C3K-PWR-265WDC: 1292 Btus per hour, 379 W
Wire gauge for power connection	C3K-PWR-265WDC: 12 AWG (6 AWG for protective earth ground)
Branch circuit protection	C3K-PWR-265WDC: 15 A

Table 7 Standards and Certifications

Description	Specification
Safety Certifications	UL60950-1 C-UL to CAN/CSA 22.2 No.60950-1 TUV/GS to EN 60950-1 CB to IEC 60950-1 with all country deviations AS/NZS 60950-1 CE Marking NOM (through partners and distributors) GOST
Electromagnetic Compatibility Certifications	FCC Part 15 Class A EN55022 Class A (CISPR22) EN55024 (CISPR24) CE VCCI Class A AS/NZS CISPR22 Class A MIC China EMC certifications GOST
Environmental	Reduction of Hazardous Substances (ROHS) 5

Table 7 **Standards and Certifications (continued)**

Description	Specification
Noise Specifications	Office Product Spec: 48dBA at 30 degrees C (refer to ISO 7779)
Telco	CLEI code

Related Publications

You can order printed copies of documents with a DOC-xxxxxx= number. For more information, see the [“Obtaining Documentation and Submitting a Service Request”](#) section on page 14.

These documents provide complete information about the switch and are available on Cisco.com:

- *Regulatory Compliance and Safety Information for the Catalyst 3750-E and Catalyst 3560-E Switch* (order number DOC-7817569=)
- *Catalyst 3750-E and Catalyst 3560-E Switch Hardware Installation Guide* (not orderable but available on Cisco.com)
- *Catalyst 3750-E Switch Getting Started Guide* (order number DOC-7817568=)
- *Catalyst 3560-E Switch Getting Started Guide* (order number DOC-7817617=)
- *Release Notes for the Catalyst 3750-E and Catalyst 3560-E Switch* (not orderable but available on Cisco.com)
- *Catalyst 3750-E and Catalyst 3560-E Switch Software Configuration Guide* (not orderable but available on Cisco.com)
- *Catalyst 3750-E and Catalyst 3560-E Switch Command Reference* (not orderable but available on Cisco.com)
- *Catalyst 3750-E and Catalyst 3560-E Switch System Message Guide* (not orderable but available on Cisco.com)
- *Catalyst 3750-E and Catalyst 3560-E Switch Stack Compatibility Guide* (not orderable but available on Cisco.com)
- *Cisco Redundant Power System 2300 Hardware Installation Guide* (order number DOC-7817647=)
- *Cisco Redundant Power System 2300 Compatibility Matrix* (not orderable but available on Cisco.com)

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<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>

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