



Installation Notes for the Cisco Redundant Power System 2300 Fan Module

This document describes how to remove and install the fan module used with the Cisco Redundant Power System 2300 (RPS 2300).

For more information about using the fan module with the RPS 2300 and for the translated safety warnings that appear in this publication, see the *Cisco Redundant System 2300 Hardware Installation Guide* on Cisco.com.

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Fan Module Overview

The RPS 2300 fan module (BLWR-RPS2300=) is a field-replacable unit (FRU) that you insert into the middle slot on the front of the RPS 2300 front panel. [Figure 2](#) shows the location of the fan module in the RPS 2300 chassis.



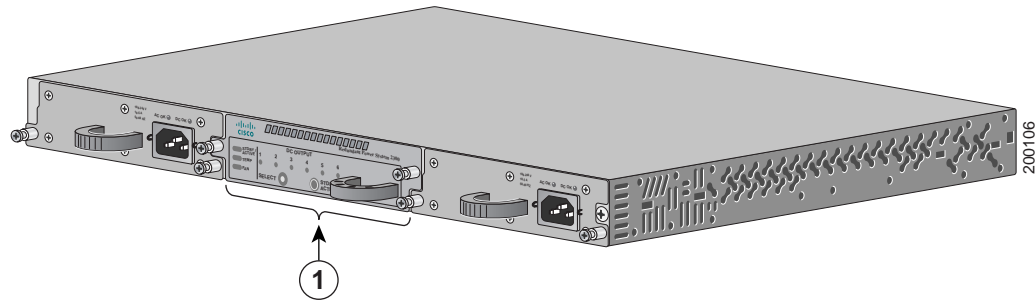
Corporate Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

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Note

The fan module is hot swappable. When the RPS 2300 is not backing up an external device, you can remove and replace the fan module without disconnecting the system power.

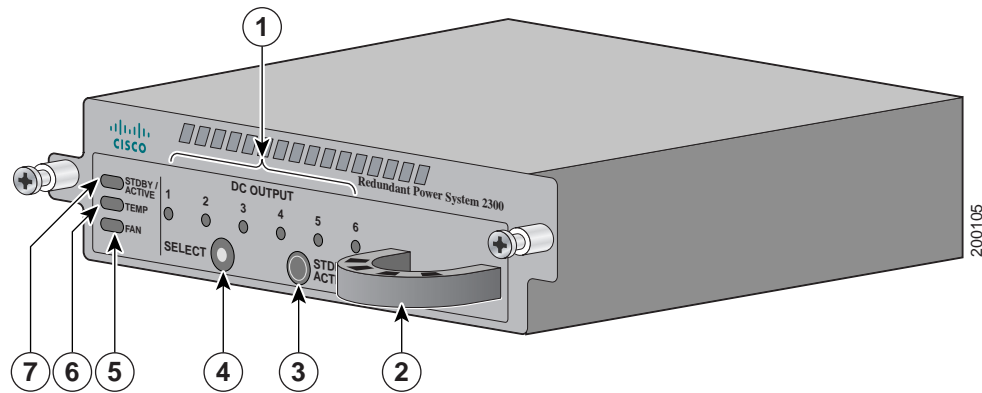
Figure 1 Fan Module Location in the Cisco RPS 2300



1	Fan module
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The fan module includes the system status LEDs, the DC output power LEDs, and the Select and the Standby/Active buttons for the RPS 2300 (Figure 2). The LEDs are described in Table 1 and Table 2. You can use the Select and Standby/Active buttons to select an RPS port and to place the RPS 2300 or an individual port in active or standby mode. For more information about these buttons, see the *Cisco Redundant Power System 2300 Hardware Installation Guide*.

Figure 2 Fan Module



1	DC output LEDs	5	Fan LED
2	Extraction handle	6	Temperature LED
3	Standby/Active button	7	STDBY/ACTIVE LED
4	Select button		

Table 1 **Status LEDs**

LED	Off	Green	Blinking Amber	Amber
Standby/Active	Not powered on.	The RPS 2300 is in active mode and can back up a failed device.	The RPS 2300 is in select mode. The selected port is in standby mode and is not ready to back up a device.	The power supply modules are not compatible with each other, or the RPS 2300 is in an overtemperature or overcurrent condition.
Temp	Not powered on.	The RPS 2300 internal temperature is less than 113°F (45°C).	The RPS 2300 internal temperature is in the elevated range. 113 to 131°F (45 to 55°C)	The RPS 2300 is in an overtemperature condition. Greater than 31°F (55°C).
Fan	Not powered on.	The fan module is operating properly.	—	The fan module is not operating properly.

The six DC output LEDs display the status of the six RPS output connectors that you use to connect the RPS 2300 to an external device. The output LEDs are numbered 1 to 6, which corresponds to the numbers on the DC outputs. [Table 2](#) lists the LED colors and their meanings.

Table 2 **DC Output LEDs**

Color	DC Output Status
Off	The RPS 2300 is not powered up, or no device is connected to the DC output connector.
Green	The RPS 2300 is connected to a device through this port and is ready to back up the connected device.
Blinking green	The RPS 2300 is backing up the connected device.
Blinking amber	The RPS 2300 is in standby mode.
Amber	The RPS 2300 is unavailable. It is providing power to another connected device.
Blinking amber and green	When you press the Select button, the DC output LEDs display the status of each port. When you select a port, the LED for that port blinks amber and green.

Removing and Installing the Fan Module

This section describes how to remove and install a new or replacement fan module in the RPS 2300. See these sections:

- [Tools and Equipment, page 4](#)
- [Installation Guidelines, page 4](#)
- [Removing the Fan Module, page 5](#)
- [Installing the Fan Module, page 5](#)
- [Verifying the Installation, page 6](#)

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. The screwdriver shaft length should be at least 6-inches long.

Installation Guidelines

Observe these guidelines when removing or installing a fan module:

- Do not force the fan module into the slot. This can damage the pins on the RPS 2300 if they are not aligned with the unit.
- A fan supply module that is only partially connected to the RPS 2300 can disrupt the system operation.
- The RPS 2300 supports hot swapping of the fan module when an external device is connected to it. When the RPS 2300 is not backing up an external device, you can remove and replace the fan module without disconnecting the system power.
- Make sure that all fan module captive screws are tightened before moving the RPS 2300.



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

Removing the Fan Module



Caution

Replace the fan within 2 minutes to avoid overheating the RPS 2300.

Follow these steps to remove the existing fan module from the RPS 2300:

- Step 1** Use a number-2 Phillips screwdriver to loosen the two captive screws at the upper edge of the fan module that secure the fan to the RPS 2300 chassis.
- Step 2** Remove the fan module from the fan slot by pulling on the extraction handle.

Installing the Fan Module

Follow these steps to install the new fan module into the RPS 2300.

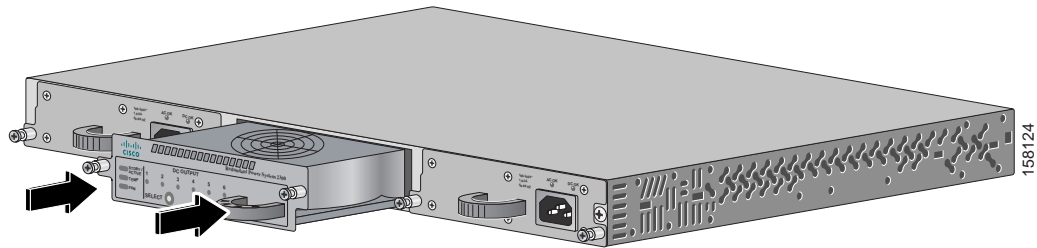
- Step 1** Insert the new fan module into the fan slot, and gently push the module into the slot ([Figure 3](#)). When correctly inserted, the fan module is flush with the RPS 2300 front panel.



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

Figure 3 Inserting the Fan Module



- Step 2** Align the two captive screws with the screw holes in the RPS 2300 front panel. Using a ratcheting torque screwdriver and a number-2 Phillips screwdriver bit, torque each screw to 5 lbf-in. (80 ozf-in.)

Verifying the Installation

Follow these steps to verify that the fan module is installed correctly:

- Step 1** Listen for the fan; you should immediately hear it operating. If you do not hear it, make sure that the fan module is completely inserted in the RPS 2300 chassis and that the faceplate is flush with the RPS front panel.
- Step 2** Confirm that the active/standby and fan LEDs on the fan module are green. See [Table 1 on page 3](#) for a description of the LEDs.
- Step 3** If the fan does not operate, or if you experience trouble with the installation (for instance, if the captive installation screws do not align with the chassis holes), contact the Cisco Technical Assistance Center (TAC) for assistance.

Technical Specifications

This section includes the technical specifications and agency approvals for the fan module.

Table 3 *Fan 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)
Operating altitude	Up to 10,000 ft (3000 m)
Physical Specification	
Dimensions (H x W x D)	1.65 x 6 x 11.9 in. (4.2 x 10.16 x 30.23 cm)
Operating Specification	
Airflow	45 cubic feet per minute (CFM) with full load at 113° F (45° C) and 10,000 ft (3000 m) ambient temperature

Table 4 *EMC Approvals*

EMC
FCC Part 15 Class A
EN 55022 (CISPR22)
EN 55024 (CISPR24)
VCCI Class A
AS/NZS CISPR22 Class A
CE
MIC
GOST
China EMC Certifications

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. This section explains the product documentation resources that Cisco offers.

Cisco.com

You can access the most current Cisco documentation at this URL:

<http://www.cisco.com/techsupport>

You can access the Cisco website at this URL:

<http://www.cisco.com>

You can access international Cisco websites at this URL:

http://www.cisco.com/public/countries_languages.shtml

Product Documentation DVD

The Product Documentation DVD is a library of technical product documentation on a portable medium. The DVD enables you to access installation, configuration, and command guides for Cisco hardware and software products. With the DVD, you have access to the HTML documentation and some of the PDF files found on the Cisco website at this URL:

<http://www.cisco.com/univercd/home/home.htm>

The Product Documentation DVD is created and released regularly. DVDs are available singly or by subscription. Registered Cisco.com users can order a Product Documentation DVD (product number DOC-DOCDVD= or DOC-DOCDVD=SUB) from Cisco Marketplace at the Product Documentation Store at this URL:

<http://www.cisco.com/go/marketplace/docstore>

Ordering Documentation

You must be a registered Cisco.com user to access Cisco Marketplace. Registered users may order Cisco documentation at the Product Documentation Store at this URL:

<http://www.cisco.com/go/marketplace/docstore>

If you do not have a user ID or password, you can register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

Documentation Feedback

You can provide feedback about Cisco technical documentation on the Cisco Technical Support & Documentation site area by entering your comments in the feedback form available in every online document.

Cisco Product Security Overview

Cisco provides a free online Security Vulnerability Policy portal at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html

From this site, you will find information about how to do the following:

- Report security vulnerabilities in Cisco products
- Obtain assistance with security incidents that involve Cisco products
- Register to receive security information from Cisco

A current list of security advisories, security notices, and security responses for Cisco products is available at this URL:

<http://www.cisco.com/go/psirt>

To see security advisories, security notices, and security responses as they are updated in real time, you can subscribe to the Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed. Information about how to subscribe to the PSIRT RSS feed is found at this URL:

http://www.cisco.com/en/US/products/products_psirt_rss_feed.html

Reporting Security Problems in Cisco Products

Cisco is committed to delivering secure products. We test our products internally before we release them, and we strive to correct all vulnerabilities quickly. If you think that you have identified a vulnerability in a Cisco product, contact PSIRT:

- For emergencies only—security-alert@cisco.com

An emergency is either a condition in which a system is under active attack or a condition for which a severe and urgent security vulnerability should be reported. All other conditions are considered nonemergencies.

- For nonemergencies—psirt@cisco.com

In an emergency, you can also reach PSIRT by telephone:

- 1 877 228-7302
- 1 408 525-6532



Tip

We encourage you to use Pretty Good Privacy (PGP) or a compatible product (for example, GnuPG) to encrypt any sensitive information that you send to Cisco. PSIRT can work with information that has been encrypted with PGP versions 2.x through 9.x.

Never use a revoked encryption key or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one linked in the Contact Summary section of the Security Vulnerability Policy page at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html

The link on this page has the current PGP key ID in use.

If you do not have or use PGP, contact PSIRT to find other means of encrypting the data before sending any sensitive material.

Product Alerts and Field Notices

Modifications to or updates about Cisco products are announced in Cisco Product Alerts and Cisco Field Notices. You can receive Cisco Product Alerts and Cisco Field Notices by using the Product Alert Tool on Cisco.com. This tool enables you to create a profile and choose those products for which you want to receive information.

To access the Product Alert Tool, you must be a registered Cisco.com user. (To register as a Cisco.com user, go to this URL: <http://tools.cisco.com/RPF/register/register.do>) Registered users can access the tool at this URL: <http://tools.cisco.com/Support/PAT/do/ViewMyProfiles.do?local=en>

Obtaining Technical Assistance

Cisco Technical Support provides 24-hour-a-day award-winning technical assistance. The Cisco Technical Support & Documentation website on Cisco.com features extensive online support resources. In addition, if you have a valid Cisco service contract, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not have a valid Cisco service contract, contact your reseller.

Cisco Technical Support & Documentation Website

The Cisco Technical Support & Documentation website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day at this URL:

<http://www.cisco.com/techsupport>

Access to all tools on the Cisco Technical Support & Documentation website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

<http://tools.cisco.com/RPF/register/register.do>



Note

Use the **Cisco Product Identification Tool** to locate your product serial number before submitting a request for service online or by phone. You can access this tool from the Cisco Technical Support & Documentation website by clicking the **Tools & Resources** link, clicking the **All Tools (A-Z)** tab, and then choosing **Cisco Product Identification Tool** from the alphabetical list. This tool offers three search options: by product ID or model name; by tree view; or, for certain products, by copying and pasting **show** command output. Search results show an illustration of your product with the serial number label location highlighted. Locate the serial number label on your product and record the information before placing a service call.



Tip

Displaying and Searching on Cisco.com

If you suspect that the browser is not refreshing a web page, force the browser to update the web page by holding down the Ctrl key while pressing F5.

To find technical information, narrow your search to look in technical documentation, not the entire Cisco.com website. On the Cisco.com home page, click the **Advanced Search** link under the Search box

and then click the **Technical Support & Documentation** radio button.

To provide feedback about the Cisco.com website or a particular technical document, click **Contacts & Feedback** at the top of any Cisco.com web page.

Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool provides recommended solutions. If your issue is not resolved using the recommended resources, your service request is assigned to a Cisco engineer. The TAC Service Request Tool is located at this URL:

<http://www.cisco.com/techsupport/servicerequest>

For S1 or S2 service requests, or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411

Australia: 1 800 805 227

EMEA: +32 2 704 55 55

USA: 1 800 553 2447

For a complete list of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/techsupport/contacts>

Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—An existing network is “down” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operations are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Severity 3 (S3)—Operational performance of the network is impaired while most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- The Cisco Online Subscription Center is the website where you can sign up for a variety of Cisco e-mail newsletters and other communications. Create a profile and then select the subscriptions that you would like to receive. To visit the Cisco Online Subscription Center, go to this URL:
<http://www.cisco.com/offer/subscribe>
- The *Cisco Product Quick Reference Guide* is a handy, compact reference tool that includes brief product overviews, key features, sample part numbers, and abbreviated technical specifications for many Cisco products that are sold through channel partners. It is updated twice a year and includes the latest Cisco channel product offerings. To order and find out more about the *Cisco Product Quick Reference Guide*, go to this URL:
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<http://www.cisco.com/ipj>
- Networking products offered by Cisco Systems, as well as customer support services, can be obtained at this URL:
<http://www.cisco.com/en/US/products/index.html>
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<http://www.cisco.com/discuss/networking>
- “What’s New in Cisco Documentation” is an online publication that provides information about the latest documentation releases for Cisco products. Updated monthly, this online publication is organized by product category to direct you quickly to the documentation for your products. You can view the latest release of “What’s New in Cisco Documentation” at this URL:
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- World-class networking training is available from Cisco. You can view current offerings at this URL:
<http://www.cisco.com/en/US/learning/index.html>

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