

Cisco Redundant Power System 2300

Q. What is the purpose of the Cisco® Redundant Power System 2300 (Cisco RPS 2300)?

A. The Cisco RPS 2300 is a redundant power system that provides users with uninterrupted network services in the event of an internal power supply failure. The Cisco RPS 2300 is used with fixed-configuration Cisco Catalyst® switches, including the Cisco Catalyst 3750-E switches, and routers such as the Cisco Integrated Services Routers. The Cisco RPS 2300 helps ensure failover from internal power supply failures for one or two of up to six connected switches or routers. It automatically senses when a connected device has experienced an internal power supply failure and immediately begins to supply power to the device, providing continuous uptime with no device reboot.

Q. Is the Cisco RPS 2300 the same as an uninterruptible power supply (UPS)?

A. No. A redundant power system protects network devices against internal power supply failures and failure of an AC circuit (a circuit breaker tripping, for example). A UPS protects these devices against interruption of utility power. For maximum availability, the Cisco RPS 2300 should always be used in conjunction with a UPS.

Q. Will the failover mechanism in the Cisco RPS 2300 prevent a switch reboot?

A. Yes. The Cisco RPS 2300 is designed to provide continued operation of the connected switch or router in the event of a power supply failure.

Q. How many devices can be connected to the Cisco RPS 2300?

A. Up to six devices may be connected to the Cisco RPS 2300.

Q. How many of the connected switches can be actively backed up with a single Cisco RPS 2300?

A. The number of switches actively backed up by the Cisco RPS 2300 depends on the number and capacity of power supply modules in the RPS and the types of devices they are backing up (Table 1).

Table 1. Number of Switches Actively Backed Up by Cisco RPS 2300

| | Cisco RPS 2300 Power Supply Configuration | | | |
|--|---|----------|-----------|-----------|
| | 1 x 750W | 2 x 750W | 1 x 1150W | 2 x 1150W |
| Cisco Catalyst 3750-E or 3560-E switches with 1150W PS | Not supported | 1 | 1 | 2 |
| All other supported network devices | 1 | 2 | 1 | 2 |

Q. Can the Cisco RPS 2300 support Power over Ethernet (PoE) switches as well as data-only switches?

A. Yes; it supports both. However, the total power available to the switches depends on the number and capacity of power supply modules in the Cisco RPS 2300. Refer to Table 1 for details.

Q. What switches and routers does the Cisco RPS 2300 support?**A.** The following switches and routers are supported:

- Cisco Catalyst 3750-E Series Switches
- Cisco Catalyst 3750 Series Switches
- Cisco Catalyst 3560-E Series Switches
- Cisco Catalyst 3560 Series Switches
- Cisco Catalyst 3550 Series Switches
- Cisco Catalyst 2960-S Series Switches
- Cisco Catalyst 2960 Series Switches
- Cisco Catalyst 2950 Series Switches
- Cisco Catalyst Express 500 Series Switches (select PoE models only)
- Cisco 3825 Integrated Services Routers
- Cisco 2851 Integrated Services Routers
- Cisco 2821 Integrated Services Routers
- Cisco 2811 Integrated Services Routers

Q. Can the switch and the Cisco RPS 2300 be attached to separate power circuits?**A.** Yes. The Cisco RPS 2300 and the switch can be on separate circuits. As long as at least one circuit is in service and providing power, the attached switch will receive power.**Operation and Installation****Q. Can we connect a running device to the RPS 2300 without service interruption?****A.** Yes. You should place the RPS port in "standby" mode, then connect the device, then place the RPS port in "active" mode. This will prevent the device from rebooting when connected to the RPS. This is optional for the Cisco Catalyst 3750-E and Cisco Catalyst 3560-E switches.**Q. Why does a device continue to draw power from the RPS even after its internal power is restored?****A.** This is expected behavior for all devices, other than the Cisco Catalyst E series switches. The device might reboot when reverting back to its own power supply. Hence, it continues to draw power from the RPS, so that the device can be switched back to its own power supply at a convenient time. In order to switch the device back to its own power supply, place the RPS port in "standby" mode until the device reverts back to its own power supply, then place the RPS port in "active" mode again. The Cisco Catalyst E and 2960-S Series switches are capable of reverting back to their own power supplies without service interruption.**Q. Can a device revert back to its own power supply without rebooting?****A.** A Cisco Catalyst E and 2960-S Series switches are capable of reverting back to their own power supply without rebooting. All other devices might reboot when reverting back to their own power supplies.

Q. For a Cisco RPS 2300 installed in a wiring closet, what are the recommended best practices for rack-mount placement and cable management?

A. Cisco recommends the following when rack-mounting the Cisco RPS 2300:

- Install the Cisco RPS 2300 at the bottom of the rack before installing any other switches or routers above it.
- Connect all the RPS cables to the Cisco RPS 2300 before rack-mounting other switches or routers.
- Rack-mount all the supported switches above the Cisco RPS 2300. Leave a one-half RU space between the Cisco RPS 2300 and the switch immediately above it to allow room for the cabling (leaving this space is not mandatory).
- Connect the RPS cables to the switch above the Cisco RPS 2300, before connecting any Cisco StackWise® or StackWise Plus cables.
- The maximum RPS cable length is 4.9 ft. (1.5 meters). Take this into account while deciding on the placement of network devices in the rack. Switches or routers using the Cisco RPS 2300 should be placed closest to the RPS.

Q. What is the maximum length of the RPS cable for the Cisco RPS 2300? Is a longer RPS cable available from Cisco or other vendors?

A. The CAB-RPS2300= and CAB-RPS2300-E= are the only RPS cables that are compatible with the Cisco RPS 2300. No other RPS cables are currently recommended by Cisco for use with the RPS 2300. Both these cables are 4.9 ft. (1.5 meters) in length.

Q. On a Cisco switch or router with an RPS slot, can a cable other than a Cisco RPS cable be inserted into that slot?

A. No. This RPS slot must only be used to connect to the Cisco RPS 2300 with the appropriate Cisco RPS cable.

Q. In the event of near-simultaneous power supply failures on all the switches connected to a Cisco RPS 2300, can certain switches be configured to receive higher priority from the RPS?

A. Yes. The Cisco RPS 2300 allows users to configure DC port priorities. Cisco devices connected to the higher priority ports will fail over to the Cisco RPS 2300 first.

Q. When a Cisco Catalyst 3750-E or 3560-E Series Switch's power supply fails, is it possible to change the power supply of the switch, while it is being backed up by the Cisco RPS 2300, without affecting the flow of switched traffic?

A. Yes. It is possible to change the power supply on a Cisco Catalyst 3750-E or 3560-E being powered by the Cisco RPS 2300 without causing any switch downtime. The only exception to this is with DC power supplies such as the C3K-PWR-265WDC. It is recommended the switch using a DC power supply is turned off, when changing power supplies, for safety reasons.

Q. When the failed power supply of a Cisco Catalyst 3750-E or 3560-E switch is reinstated, will the switch automatically revert back to its own power supply?

A. Yes. The Cisco RPS 2300 will detect that the switch's power supply has been reinstated and will hand off the power to the switch's supply.

Q. From a remote location, is it possible to put the Cisco RPS 2300 or individual RPS ports into active or standby mode?

A. Yes. It is possible to remotely put all or selected Cisco RPS 2300 ports in active or standby mode using the command line interface (CLI) or the Cisco Network Assistant network

management tool. However, this is only possible if at least one of the Cisco RPS 2300 DC ports is connected to a Cisco Catalyst 3750-E or 3560-E Series Switch. CLI to change the RPS ports to active or standby mode:

A. Switch# power rps <Switch Number> port <RPS port> mode standby

A. Switch# power rps <Switch Number> port <RPS port> mode active

Q. What is the purpose of the Cisco RPS 2300 power bay insert? When should it be used?

A. The Cisco RPS 2300 power bay insert should be used at all times when the Cisco RPS 2300 is operating with only one power supply. The insert helps ensure that the aerodynamics within the Cisco RPS 2300 will provide proper cooling. Operating the Cisco RPS 2300 without this insert in the empty power supply bay might result in serious RPS 2300 faults, due to overheating. This insert is provided with all RPS 2300s ordered with one power supply. For a Cisco RPS 2300 ordered with two power supplies, this insert is not included and needs to be ordered separately as a spare.

Management

Q. Does the Cisco RPS 2300 offer enhanced management features when connected to Cisco switches?

A. Yes. The Cisco RPS 2300 offers enhanced management capabilities when attached to Cisco Catalyst 3750-E and 3560-E Series Switches.

Q. What new management features are available on the Cisco RPS 2300?

A. Provided the Cisco RPS 2300 is connected to a Cisco Catalyst 3750-E or 3560-E Series Switch, it provides users with the following additional management features:

- The ability to remotely place the RPS (and all six DC ports) in active or standby mode.
- The ability to report if one or two RPS power supply modules are present in the Cisco RPS 2300 as well as their status
- The ability to report a list of connected switches and their power requirements
- The ability to report which switches are being supplied power from the Cisco RPS 2300
- The ability to configure switch priority

Power Supplies and Spares

Q. What power supply options are available for the Cisco RPS 2300?

A. The Cisco RPS 2300 works with the power supplies listed in Table 2. These are also compatible with Cisco Catalyst 3750-E or 3560-E Series Switches.

Table 2. Cisco RPS 2300 Power Supplies

| Power Supply | Output Power |
|-----------------|--------------|
| C3K-PWR-1150WAC | 1150W AC |
| C3K-PWR-750WAC | 750W AC |

Q. Will the entire Cisco RPS 2300 unit need to be replaced if it experiences power supply or blower problems?

A. No. Cisco RPS 2300 users can replace the faulty power supplies or blowers. The product IDs for the spares are shown in Table 3. Table 4 lists maintenance contract information.

Table 3. Product IDs for Individual Cisco RPS 2300 Spares

| Model Number | Product Description |
|------------------------|---|
| PWR-RPS2300 | RPS 2300 chassis |
| C3K-PWR-1150WAC | Cisco Catalyst 3750-E/3560-E 1150W AC power supply |
| C3K-PWR-750WAC | Cisco Catalyst 3750-E/3560-E 750W AC power supply |
| BLWR-RPS2300= | Spare 45CFM Blower for Cisco Redundant Power System 2300 |
| CAB-RPS2300-E= | Spare RPS Cable RPS 2300 Cat 3750E/3560E Switches |
| CAB-RPS2300= | Spare RPS Cable for Cisco Redundant Power System 2300 |
| BLNK-RPS2300= | Spare Bay Insert for Cisco Redundant Power System 2300 |
| ACC-RPS2300= | Spare Accessory Kit for Cisco Redundant Power System 2300 |

Table 4. Cisco SMARTnet® Maintenance Contracts for Cisco RPS 2300

| Model Number | Product Description |
|-------------------------|--|
| CON-SNT-RPS2300 | SMARTnet 8x5xNext Business Day Advance Replacement Service |
| CON-SNTE-RPS2300 | SMARTnet 8x5x4hr Advance Replacement Service |
| CON-SNTP-RPS2300 | SMARTnet 24x7x4hr Advance Replacement Service |
| CON-S2P-RPS2300 | SMARTnet 24x7x2hr Advance Replacement Service |
| CON-OS-RPS2300 | SMARTnet 8x5xNext Business Day Onsite Replacement Service |
| CON-OSE-RPS2300 | SMARTnet 8x5x4hr Onsite Replacement Service |
| CON-OSP-RPS2300 | SMARTnet 24x7x4hr Onsite Replacement Service |
| CON-PREM-RPS2300 | SMARTnet 24x7x2hr Onsite Replacement Service |

For more information about Cisco service offerings, visit

www.cisco.com/en/US/products/ps6897/serv_group_home.html.

Q. Can the power supply modules used for the Cisco RPS 2300 be reused in other Cisco networking devices?

A. The Cisco RPS 2300 power supplies are compatible with the power supplies found in the Cisco Catalyst 3750-E and 3560-E Series.

Q. Why are there two different RPS cable options when ordering a Cisco RPS 2300 on Cisco.com?

A. There are two RPS cables available for the Cisco RPS 2300. Both of them have a 22-pin connector on the RPS end. However, there are two connector varieties on the switch end. There is a 22-pin connector for Cisco Catalyst 3750-E or 3560-E Series Switches (CAB-RPS2300-E=); this connector facilitates the additional management capabilities available with these switches. A 14-pin connector is available for all other switches and routers (CAB-RPS2300=).

For More Information

For more information about the Cisco RPS 2300, contact your local account representative.



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