

Redundant Power Supply Unit (PSU) and Cage Replacement

User Guide

Contents

1. Redundant Power Supply Unit (PSU) and Cage Replacement

Checking the existing PSU model..... 2

PSU and cage SKUs..... 3

Replacing the PSUs and PSU cage..... 4

Support and other resources..... 13

2. Important Information and Notices

Important Information..... 14

Safety information..... 14

Limited warranty..... 17

Disclaimer..... 17

Copyright..... 17

1. Redundant Power Supply Unit (PSU) and Cage Replacement

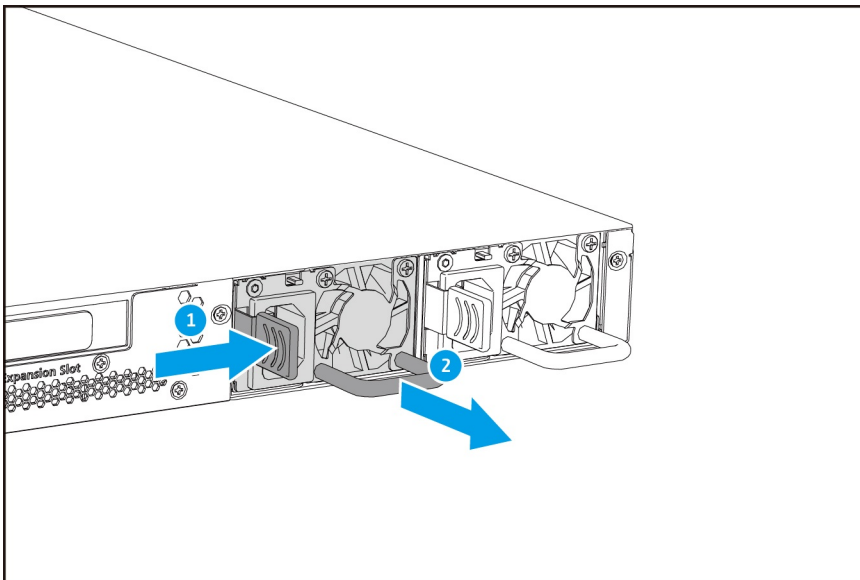
This guide helps users replace discontinued power supply units (PSUs) and their enclosing PSU cage on specific QNAP NAS models with redundant PSUs.

Due to the discontinuation of an older PSU model that came with certain NAS models, owners of these NAS models must switch to the new PSU model when replacing PSUs. Because the new PSU model is incompatible with the older PSU cage, users must also replace the older PSU cage with the new PSU cage model.

This guide details the affected NAS models, how to check if your NAS is using the older PSU model, where to purchase the new PSU and PSU cage models, and how to replace the PSUs and PSU cage.

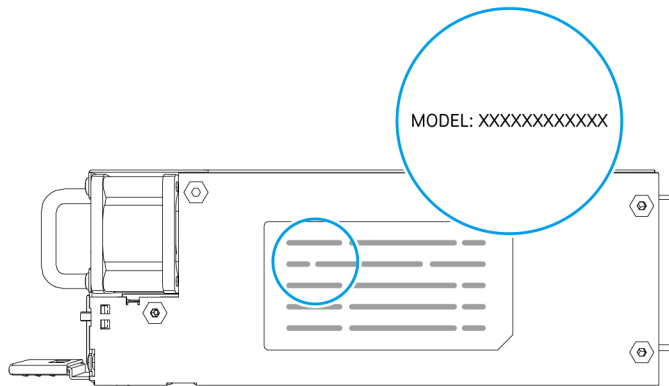
Checking the existing PSU model

1. Remove a PSU by firmly pressing the latch toward the handle and then pulling out the PSU.



2. Locate the label on the PSU.
The label is usually on the bottom side of the PSU.

3. Locate the model name on the PSU label.



4. Follow the corresponding steps based on the PSU model:

PSU Model Name	User Action
DPS-250AB-81 A	You have the old PSU model. Follow these steps: - Purchase the new PSU and PSU cage models. For details, see PSU and cage SKUs. - Replace the existing PSUs and PSU cage with the newly purchased ones. For details, see Replacing the PSUs and PSU cage.
DPS-250AB-81 B	You have the new PSU model. There is no need to replace the PSU cage. Follow these steps: - Purchase the new PSU model. For details, see PSU and cage SKUs. - Replace the faulty PSU with the newly purchased one. Tip You can replace the faulty PSU without turning off the NAS. This is known as hot-swapping. However, make sure to remove the power cable connected to the PSU before hot-swapping the PSU.

PSU and cage SKUs

You can purchase PSUs and PSU cages at <https://accessory.qnap.com>.

Status	Item	QNAP SKU	Description
Discontinued	PSU	SP-469U-S-PSU	Old PSU model Model name: DPS-250AB-81 A Note The cage for this PSU model came with the NAS and was never sold as a separate component.
Current	PSU	PWR-PSU-250W-DT04	New PSU model, replacement for the SP-469U-S-PSU Model name: DPS-250AB-81 B
Current	PSU cage	PWR-CG-DT04-001	New PSU cage model for the PWR-PSU-250W-DT04
Current	PSU and cage set	PWR-SET-DT04	New PSU and cage set: • 1 x PSU cage (PWR-CG-DT04-001) • 2 x PSUs (PWR-PSU-250W-DT04)

Replacing the PSUs and PSU cage

Note

To check whether you need to replace the PSUs and PSU cage with newer models, see [Checking the existing PSU model](#).

Required tools:

- Anti-static wrist strap
- Phillips #1 or #2 screwdriver

Warning

- Observe electrostatic discharge (ESD) procedures to avoid damage to components.

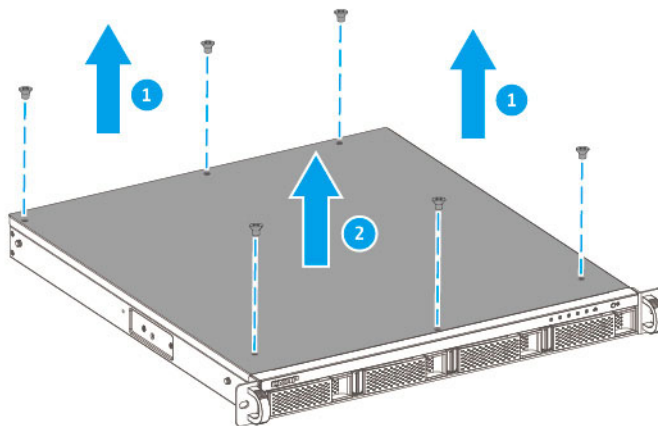


Moving fan blades: Keep your hands and other body parts away from moving fan blades.



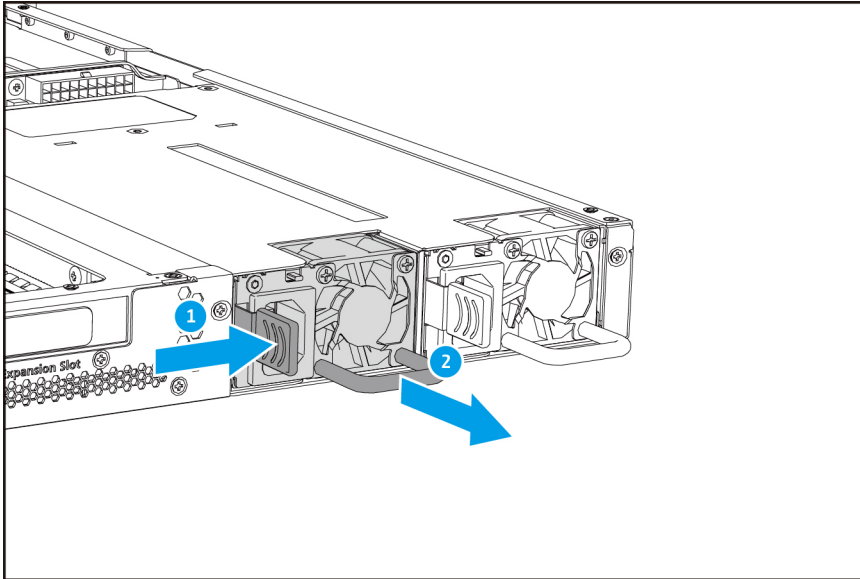
Other moving components: Keep your hands and other body parts away from other moving components.

1. Power off the device.
2. Disconnect the power cords from the electrical outlet.
3. Disconnect all cables and external attachments.
4. Remove the case cover.
 - a. Remove the screws that secure the cover to the chassis.
 - b. Lift the cover off the device.



5. Remove the PSUs.

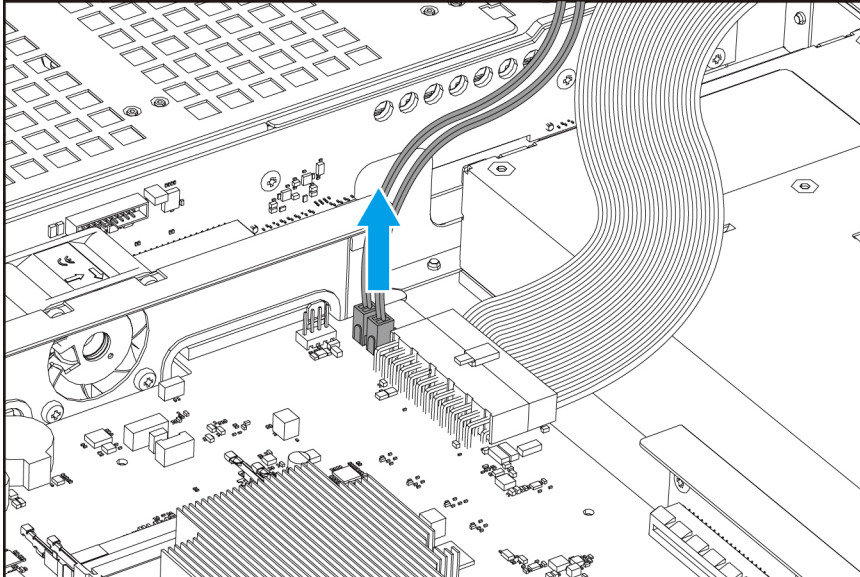
- a.** Firmly press the latch toward the handle and then pull the PSU out.



- b.** Remove the other PSU.

6. Detach the power connectors.

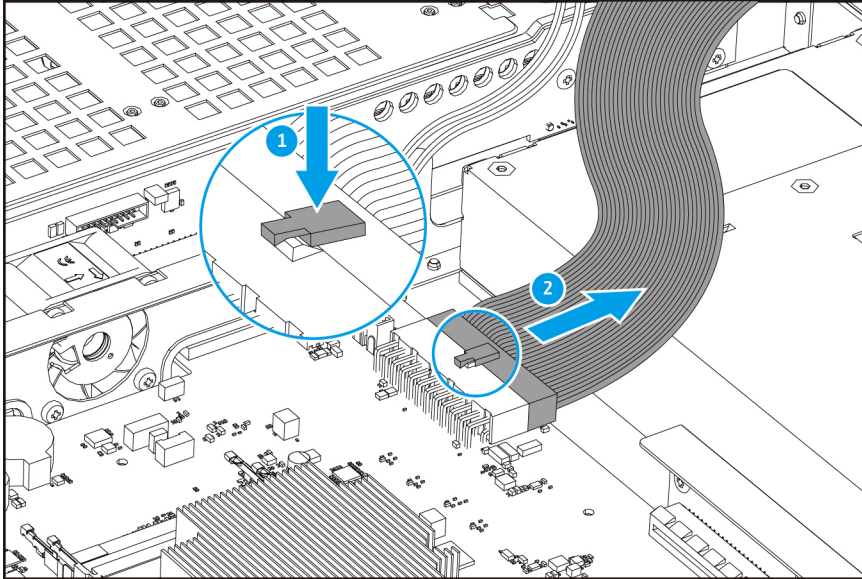
- a.** Detach the small power connectors from the system board.



- b. Detach the large power connector from the system board.

Note

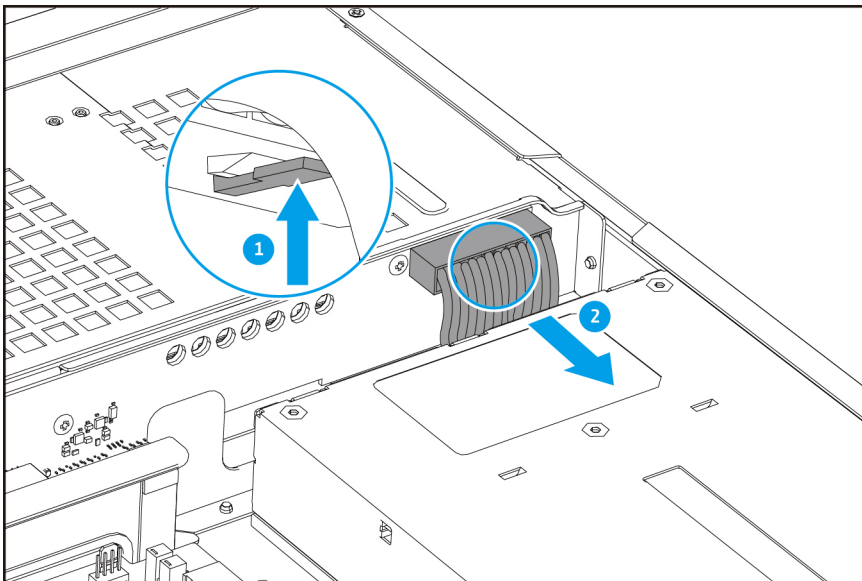
Make sure to release the latch at the top of the power connector first.



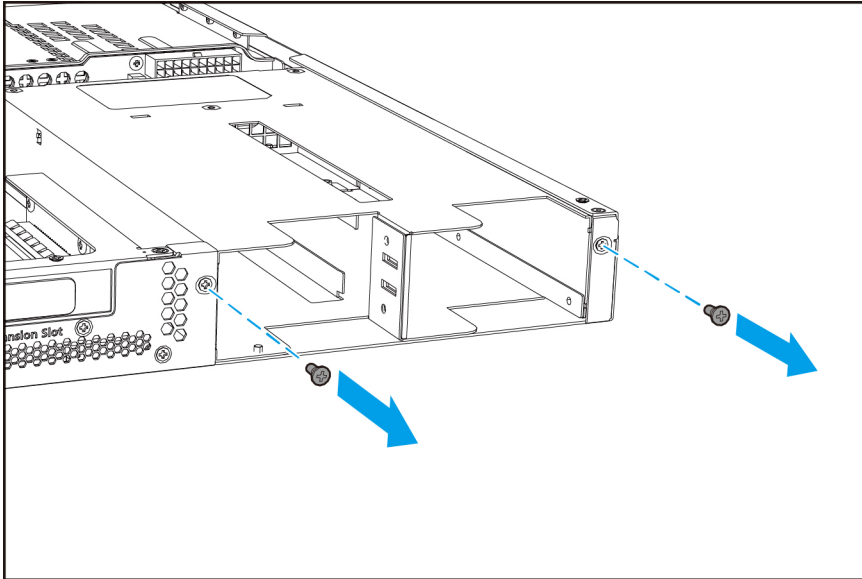
- c. Detach the power connector from the backplane.

Note

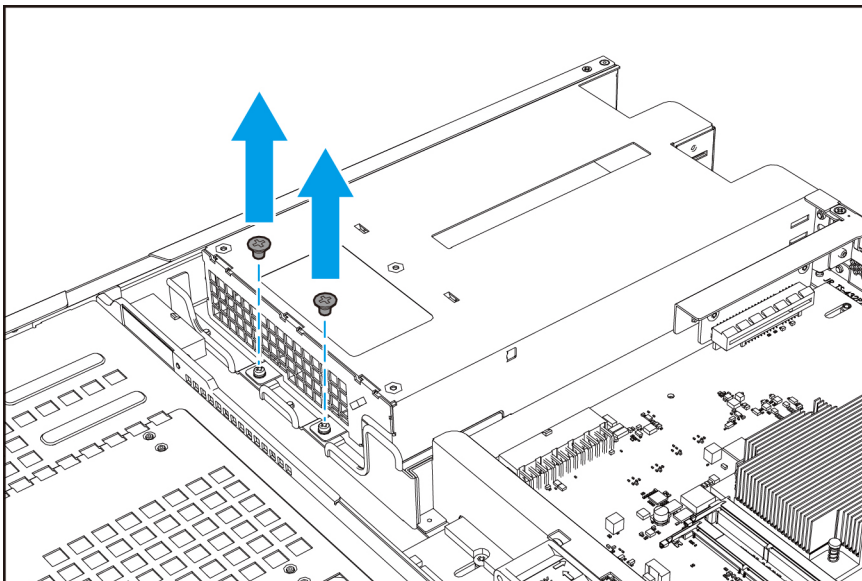
Make sure to release the latch at the bottom of the power connector first.



7. Remove the screws that secure the PSU cage to the device.
 - a. Remove the screws that secure the PSU cage to the rear panel.

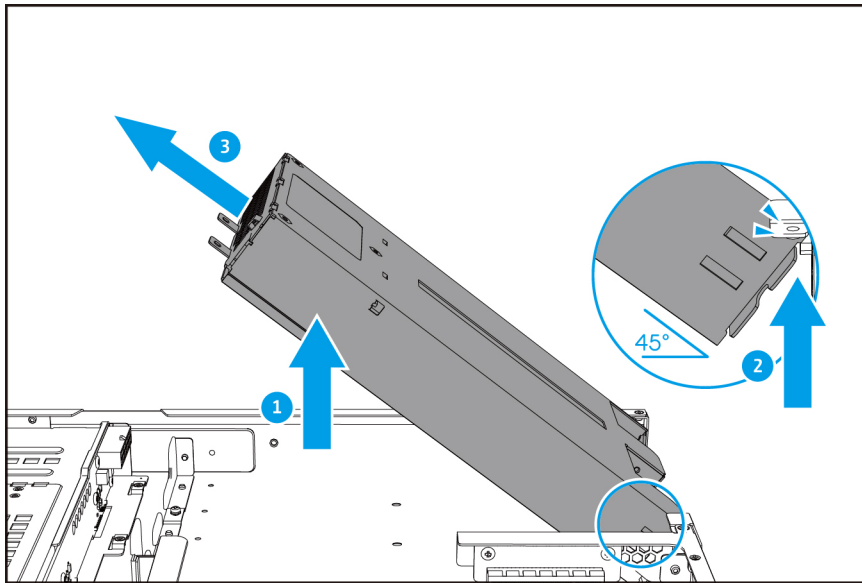


- b. Remove the screws that secure the PSU cage to the chassis.



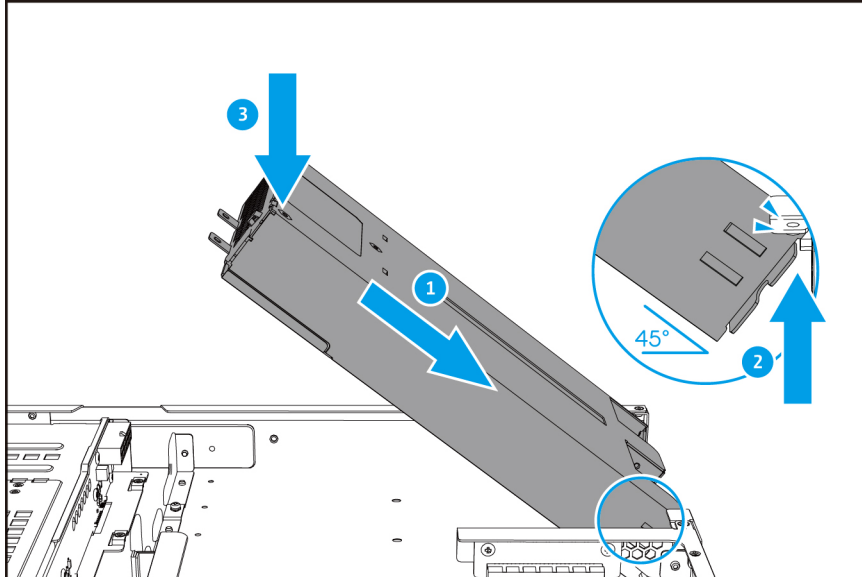
8. Remove the PSU cage.
 - a. Tilt the front end of the PSU cage up by around 45 degrees.
 - b. Slightly lift the rear end of the PSU cage until it reaches the top of the rear panel.

- c. Slide out the PSU cage at the 45-degree angle.



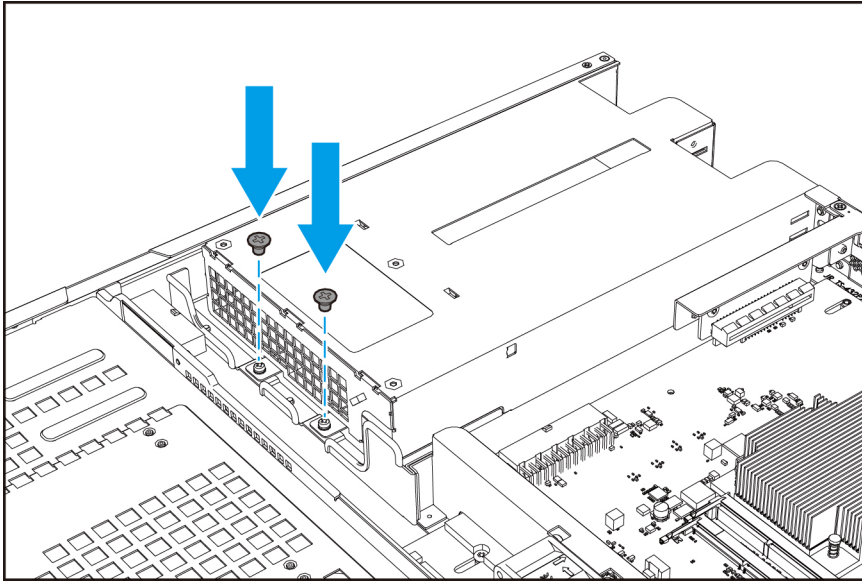
9. Install the new PSU cage.

- a. Insert the rear end of the PSU cage at a 45-degree angle into the rear panel.
- b. Slightly lift the rear end of the PSU cage until it reaches the top of the rear panel.
- c. Insert the front end of the PSU cage into the chassis.

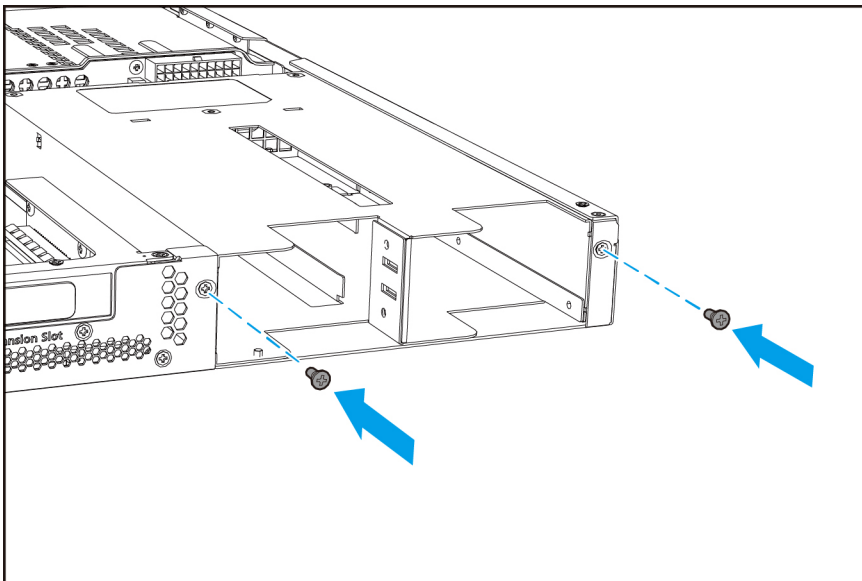


10. Attach the screws that secure the PSU cage to the device.

- a. Attach the screws that secure the PSU cage to the chassis.**

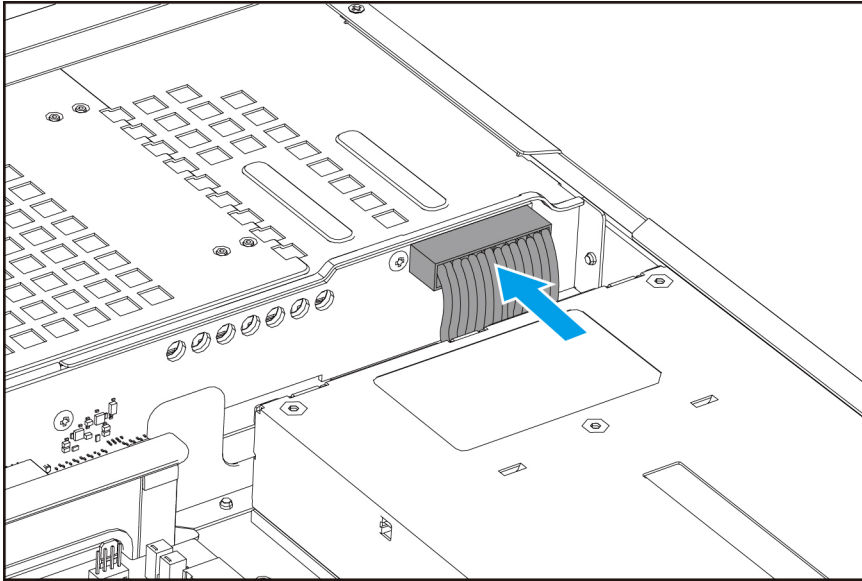


- b. Attach the screws that secure the PSU cage to the rear panel.**

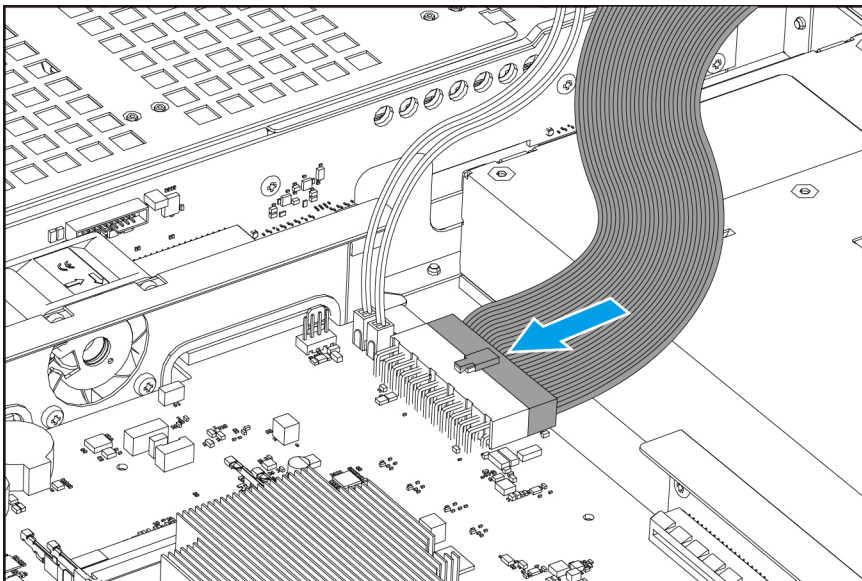


11. Attach the power connectors.

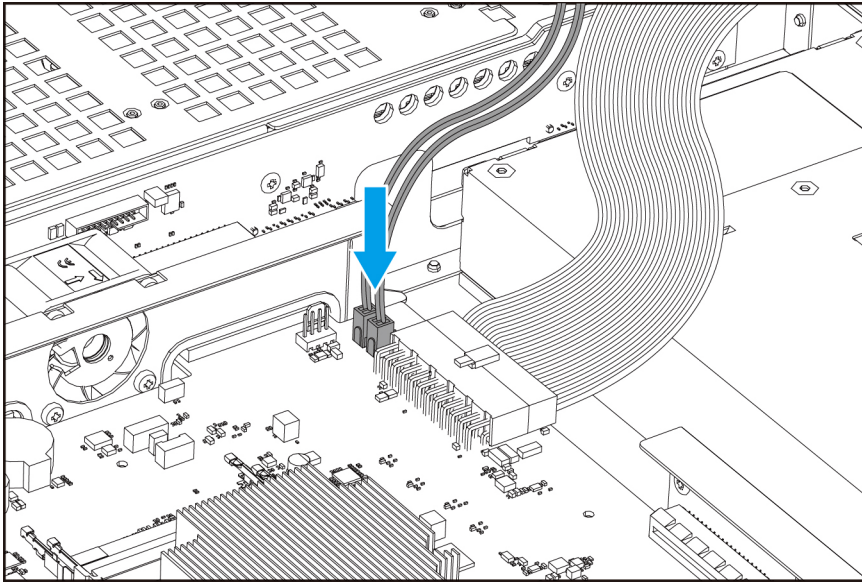
- a. Attach the power connector to the backplane.**



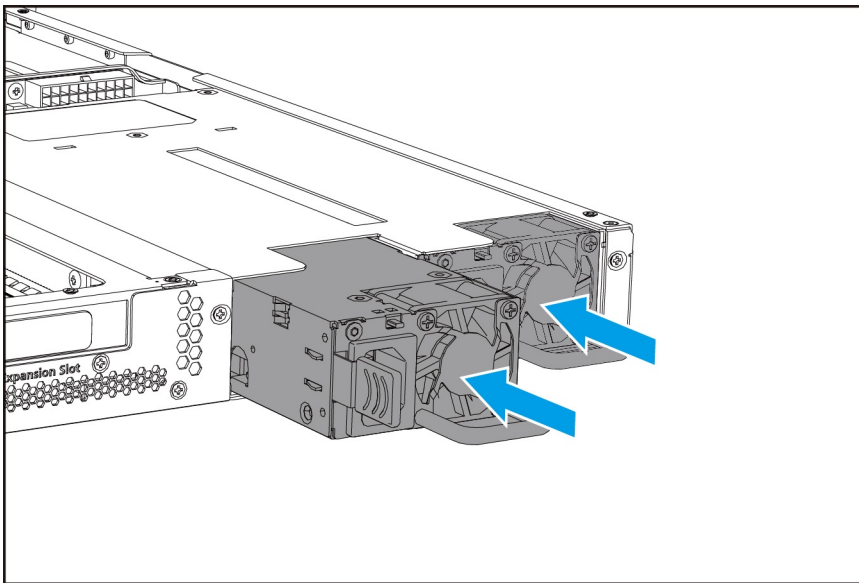
- b. Attach the large power connector to the system board.**



- c. Attach the small power connectors to the system board.



12. Insert the new PSUs.



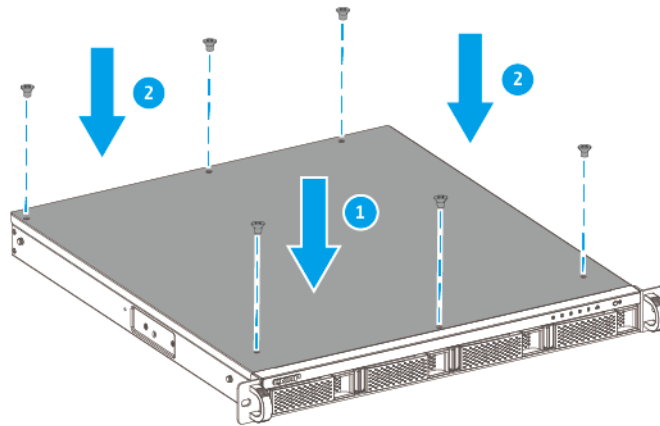
Tip

The label on the PSU cage indicates which PSU model is compatible with the PSU cage. Before installing the new PSUs, check both the PSU and PSU cage labels to ensure you are using the correct PSU model for the PSU cage.

13. Attach the case cover.

- a. Place the cover on the device.

- b.** Attach the screws that secure the cover to the chassis.



- 14.** Connect all cables and external attachments.
- 15.** Connect the power cords to the electrical outlet.
- 16.** Power on the device.

Support and other resources

QNAP provides the following resources:

Resource	URL
Documentation	https://www.qnap.com/download
Compatibility List	https://www.qnap.com/compatibility
NAS Migration Compatibility	https://www.qnap.com/go/nas-migration
Expansion Unit Compatibility	https://www.qnap.com/go/compatibility-expansion
Service Portal	https://service.qnap.com
Product Support Status	https://www.qnap.com/go/product/status
Downloads	https://www.qnap.com/download
QNAP Community	https://community.qnap.com
QNAP Accessories Store	https://accessory.qnap.com

2. Important Information and Notices

Important Information

Original Packaging

Please keep the original packaging and packaging materials. If you want to return the product or send it for repairs, please use the original packaging to avoid damage.

QNAP reserves the right not to provide a refund or warranty service for products that are damaged due to improper packaging.

Hardware Defects

If your QNAP product has hardware defects, return the product to QNAP or a QNAP-authorized service center for maintenance or replacement. Any attempt to repair or perform maintenance procedures on the product by you or an unauthorized third party invalidates the warranty.

QNAP is not responsible for any damage or data loss caused by unauthorized modifications and installation of unsupported third-party applications.

For details, see the [QNAP Warranty Terms and Conditions](#).

Safety information

The following instructions help ensure personal safety and environmental safety. Read these instructions carefully before performing any operation.

General Instructions

- The device should be stored in a secure location with restricted access, controlled through the use of a tool, lock and key, or any means of security.
- Only qualified, skilled, and authorized persons with knowledge of all restrictions, safety precautions, and installation and maintenance procedures should have physical access to the device.

WARNING



- To avoid potential injury or damage to components, ensure that the drives and other internal system components have cooled before touching them.
- Always ensure that all drive trays, including empty ones, are properly installed in the device. Missing trays can alter the intended airflow, potentially causing internal components to overheat.



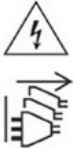
Observe electrostatic discharge (ESD) procedures to avoid potential injury or damage to components.

Power

WARNING



To reduce the risk of fire or electric shock, ensure that you only connect the power cord to a properly grounded electrical outlet.



Devices with redundant power supply may have one or more power supply unit (PSU) cords. To avoid serious injuries, a trained service technician must disconnect all PSU cords from the device before installing or replacing system components.

Moving Parts

WARNING



Moving fan blades: Keep your body parts away from any moving fan blades while the device is connected to a power source.



Moving components: Keep your body parts away from any other moving components.

The device is not suitable for use in locations where children are likely to be present.

System Battery

WARNING



INGESTION HAZARD

- This product may contain a button battery.
- Keep batteries out of reach of children.
- If swallowed, a lithium button battery can cause severe or fatal injuries within 2 hours.
- If you think batteries may have been swallowed or placed inside any part of the body, seek immediate medical attention.

- To avoid potential battery explosion, causing injury or damage to components, ensure that you replace the existing battery with a battery of the same type.

- Dispose of used batteries properly according to local regulations or the instructions of the battery manufacturer.
- Even used batteries may cause severe injury or death.
- Call a local poison control center for treatment information.
- For information on the type and voltage of the button battery in your device, please see the hardware specification table.
- Non-rechargeable batteries are not to be recharged.
- Do not force discharge, recharge, disassemble, heat, or incinerate. Doing so may result in injury due to venting, leakage, or explosion resulting in chemical burns.
- Ensure the batteries are installed correctly according to polarity (+ and -).
- Do not mix old and new batteries, or different brands or types of batteries, such as alkaline, carbon-zinc, or rechargeable batteries.
- Remove and immediately recycle or dispose of batteries from equipment not used for an extended period of time according to local regulations.
- Always completely secure the battery compartment. If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children.

Rail Kits

Rackmount models may require rail kits for installation onto a server rack or cabinet.

To ensure equipment and personal safety, please carefully read the installation instructions for your rail kit before you install the rail kit and mount your device.

To check if your device is a rackmount unit, see the hardware specification table.

WARNING

- When the rail kit is installed on the server rack, do not fully extend and unlatch the rails except when mounting or unmounting a device.
- Leaving the rails fully extended out and unlatched may cause heavy equipment to fall. This can cause equipment damage and severe or even fatal injuries.
- Before you prepare the rails for device mounting or unmounting, please carefully read and ensure you understand the installation instructions.
- Do not place any objects or add any extra load onto the device or rails when mounting or unmounting a device.
- When mounting a device, slide the device all the way into the server rack to fully latch the rails and secure the device to the server rack.

Limited warranty

QNAP offers limited warranty service on our products. Your QNAP-branded hardware product is warranted against defects in materials and workmanship for a period of one (1) year or more from the date printed on the invoice. ("Warranty Period"). Please review your statutory rights at www.qnap.com/warranty, which may be amended from time to time by QNAP in its discretion.

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Back up the system periodically to avoid any potential data loss is recommended. QNAP disclaims any responsibility of all sorts of data loss or recovery.

Should you return any components of the package of QNAP products such as NAS (Network Attached Storage) for refund or maintenance, make sure they are carefully packed for shipping. Any form of damages due to improper packaging will not be compensated.

All the features, functionality, and other product specifications are subject to change without prior notice or obligation. Information contained herein is subject to change without notice.

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