



Replacing Components

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Replacing a Fan Module During Operations

All fan and power supply modules must have the same airflow direction or else an error can occur with the switch overheating and shutting down. You can determine the airflow direction of a fan module by the color of the stripe on the front of the module. If the fan module has a blue stripe for port-side exhaust airflow, the power supplies must have blue coloring for the same airflow direction. If the fan module has a burgundy stripe for port-side intake airflow, the power supplies must have burgundy coloring for the same airflow direction. To avoid over heating the switch, make sure that the fan modules are positioned in one of the following ways:

- For port-side exhaust airflow with blue coloring, position the fan modules in a cold aisle.
- For port-side intake airflow with burgundy coloring, position the ports in a cold aisle.

Before you begin

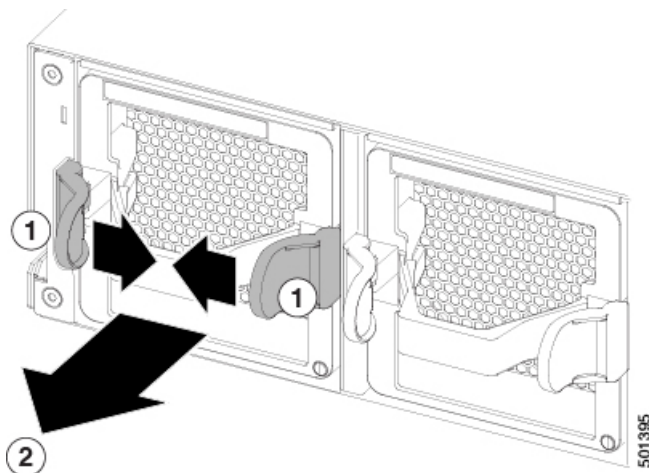
Before you can replace a fan module, ensure that the following conditions exist:

- There are four functioning fan modules in the other fan slots. In order to replace a fan module during operations, there must be three fan modules circulating air in the chassis at all times. The other fan module is redundant and can be replaced.
- The replacement fan module must have the same airflow direction as the other modules in the chassis.

If you must replace the fan module during operations and the above conditions are not met, leave the fan module that you need to replace in the chassis to preserve the designed airflow until you have the required module.

Step 1 Remove the fan module that you need to replace as follows:

- a) Press the two colored sides of the fan module handle towards each other and pull the handle to slide the module out of the chassis.



1	Press inward on both colored slides of the handle.	2	While holding the sides inward, pull on the handle to remove the module from the chassis.
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- b) Place the removed module on an antistatic surface or in an antistatic bag. If possible, repack the module in its packing materials for safe shipping or storage.

Step 2

Follow these steps to replace the missing fan module within two minutes to avoid a shutdown.

- a) Remove the replacement fan module from its packing materials and place it on an antistatic surface.

Hold the module by its handle and do not touch the electrical connectors on its backside. Also, to protect the electrical connectors, avoid letting them come in contact with anything other than the electrical connectors inside the chassis.

- b) Verify that you have the right fan module for the chassis. The correct fan module has one of the following part numbers:

- NXASFAN-160CFM-2PE (port-side exhaust airflow direction and a blue stripe)
- NXASFAN-160CFM-2PI (port-side intake airflow direction and a red stripe)

Note Be sure that the airflow direction of the new fan module matches the airflow direction of the other fan and AC power supply modules already installed in the chassis. Port-side intake airflow is indicated with red coloring, and port-side exhaust airflow is indicated with blue coloring. Power supplies with dual-direction airflow (airflow direction is set by the fan modules) have white coloring.

- c) Position the fan module in front of the open fan slot (be sure that the backside of the module with the electrical connectors is positioned to enter the slot first) and slide the module all the way into the chassis until its front side comes in contact with the chassis. For the last 0.2 inches (0.5 cm), carefully mount the module onto the chassis connectors by pushing more firmly, but do not force the module if it does not move further (excessive force can damage the connectors).

Note If you are not able to push the module all the way into the slot, carefully slide the module out of the slot and check its electrical connectors for damage. If damaged, contact Cisco Technical Assistance for help. If undamaged, repeat this step to reinstall the module.

- d) Verify that the STS LED turns on and becomes green.

If the STS LED does not turn on, slide the module out of the chassis, and visually check the electrical connectors on the back side of the chassis for damage. If damaged, contact Cisco Technical Assistance for help. If undamaged, repeat the previous step to reinstall the module.

Replacing a Power Supply Module

The switch requires two power supplies for redundancy. With one power supply providing the necessary power for operations, you can replace the other power supply during operations so long as the new power supply has the same airflow direction as the other modules in the chassis.

You can replace a power supply with another supported power supply that has the same power source type as the other installed power supply. Additionally, the airflow direction of the power supply must match or conform to the airflow direction of the installed fan modules. For the airflow direction used by the switch, see the coloring of the fan modules.

Installing an AC Power Supply

You can replace one power supply while the other one provides power to the switch.

Before you begin

- The power supply that you are installing must be capable of using the same airflow direction as the fan trays installed in the same switch and it must use the same type of power source as the other power supply installed in the same switch. (do not mix AC and DC power supplies in the same switch) A mix of AC and DC power supplies in the same switch are supported for hot swapping purposes within a time limit of 15 minutes..



Note HVAC/HVDC power supply with red coloring have the same port-side intake airflow direction as the power supplies with red coloring . If the power supply that you are replacing has a different color handle than the replacement power supply, verify that it has or will have the same airflow direction as the other modules in the switch.

- An AC power source must be within reach of the power cable that will be used with the replacement power supply. If you are using $n+n$ power redundancy, there must be a separate power source for each power supply installed in the chassis. Otherwise, only one power source is required.
- There must be an earth ground connection to the chassis that you are installing the replacement module. Typically, the chassis is grounded by its metal-to-metal connection with a grounded rack. If you need to ground the chassis, see [Grounding the Chassis](#).

Step 1

Holding the replacement power supply with one hand underneath the module and the other hand holding the handle, turn the power supply so that its release latch is on the side and align the back end of the power supply (the end with the electrical connections) to the open power supply slot before carefully sliding the power supply all the way into the slot until it clicks into place.

Note If the power supply does not fit into the open slot, turn the module over before sliding it carefully into the open slot.

Step 2 Test the installation by trying to pull the power supply out of the slot without using the release latch. If the power supply does not move out of place, it is secured in the slot. If the power supply moves, carefully press it all the way into the slot until it clicks in place.

Step 3 Attach the power cable to the electrical inlet on the front of the power supply.

Step 4 Make sure that the other end of the power cable is attached to the appropriate power source for the power supply.

Note Depending on the outlet receptacle on your power distribution unit, you might need the optional jumper cable to connect the switch to your outlet receptacle.

Step 5 Verify that the power supply is operational by making sure that the power supply LED is green.

Installing an HVAC/HVDC Power Supply

You can replace one power supply while the other one provides power to the switch.



Note If the power supply that you are replacing has a different color handle than the replacement power supply, verify that it has or will have the same airflow direction as the other modules in the switch.

Before you begin

- If you are using DC power for the replacement power supply, the circuit breaker for the power feed to the power supply that you are replacing must be turned off.
- If you are using $n+n$ power redundancy, there must be a separate power source for each power supply installed in the chassis (power sources must be of the same type—do not mix AC and DC power sources for the same switch). Otherwise, only one power source is required.
- There must be an earth ground connection to the chassis that you are installing the replacement module. Typically, the chassis is grounded by its metal-to-metal connection to a grounded rack. If you need to ground this chassis by another means, see [Grounding the Chassis](#).

Step 1 Holding the replacement power supply with one hand underneath the module and the other hand holding the handle, turn the power supply so that its release latch is on the side and align the back end of the power supply (the end with the electrical connections) to the open power supply slot before carefully sliding the power supply all the way into the slot until it clicks into place.

Note If the power supply does not fit into the open slot, turn the module over before sliding it into the open slot.

Step 2 Test the installation by trying to pull the power supply out of the slot without using the release latch.

If the power supply does not move out of place, it is secured in the slot. If the power supply moves, carefully press it all the way into the slot until it clicks in place.

- Step 3** If the DC power cables and a grounding cable are already connected to an electrical connector block, insert the block into the power receptacle on the power supply.
- Step 4** Make sure that the other end of the power cable is connected to the appropriate power source for the power supply.
- Step 5** If using a DC power source, turn on the circuit breaker for the DC power source connected to the power supply.
- Step 6** Verify that the power supply is operational by making sure that the power supply LED is green.
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Installing a DC Power Supply

You can replace one power supply while the other one provides power to the switch.

Before you begin

- The circuit breaker for the DC power source for the power supply must be turned off.
- The power supply that you are installing must be capable of using the same airflow direction as the fan trays installed in the same switch
- A DC power source must be within reach of the power cable that will be used with the replacement power supply. If you are using $n+n$ power redundancy, there must be a separate power source for each power supply installed in the chassis (do not mix AC and DC power sources for the same switch). Otherwise, only one power source is required.
- There must be an earth ground connection to the chassis that you are installing the replacement module. Typically, the chassis is grounded by its metal-to-metal connection to a grounded rack. If you need to ground this chassis by another means, see [Grounding the Chassis](#).
- We recommend 8-AWG wire for DC installation in the U.S.
- All DC power supplies have reverse polarity protection. When you inadvertently connect the input power (+) to the DC PSU's – terminal and the input power – to the DC PSU's (+) terminal, the PSU will not be damaged and will operate fine after the input power feeds are correctly wired.

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- Step 1** Holding the replacement power supply with one hand underneath the module and the other hand holding the handle, turn the power supply so that its release latch is on the side and align the back end of the power supply (the end with the electrical connections) to the open power supply slot before carefully sliding the power supply all the way into the slot until it clicks into place.

Note If the power supply does not fit into the open slot, turn the module over before carefully sliding it into the open slot.

- Step 2** If the DC power cables and a grounding cable are already connected to an electrical connector block, insert the block into the power receptacle on the power supply.
- Step 3** Turn on the circuit breaker for the DC power source connected to the power supply.
- Step 4** Verify that the power supply is operational by making sure that the power supply LED is green.
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