



# Installing and Removing Components



**Warning** Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing. Statement 1034



**Caution** During this procedure, wear grounding wrist straps to avoid ESD damage to the switch.

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## Installing Power Supplies

To install a power supply, follow these steps:

### Before you begin

- To implement n+n redundancy, each PSU must be connected to a separate power grid. Otherwise, only one power grid is required.
- There must be an earth ground connection to the chassis to which 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 Switch](#).

### Step 1

Holding the power supply unit with one hand underneath it and the other hand holding the handle, turn the power supply so that its release latch is on the right side, and align the back end of the power supply (the end with the electrical connections) to the open power supply slot.

Carefully slide the power supply unit all the way into the slot until it clicks into place.

**Note** If the power supply unit does not fit into the slot opening, turn the unit over and try again.

- 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 outlet in the front of the power supply. Make sure that the other end of the power cable is attached to the appropriate power source for the power supply. If the power source has a switch, set it to the **ON** position.
- Step 4** Verify that the power supply is operational by making sure that the power supply LED is green. For information on what the power supply LEDs indicate, see the [Switch LEDs](#).

## Removing Power Supplies

You can remove one power supply, while the other one provides enough power to the switch. To removing power supplies, perform the following steps:

- Step 1** For AC and HVAC power supplies, if the power source has a switch set it to Off, then set the PSU switch to Off. Grasp the plug of the power cord and pull it out of the power receptacle on the PSU.
- Step 2** Holding the plug for the power cable, pull the plug out from the power receptacle on the AC PSU, and verify that both the power supply LEDs are off.
- Note** If you need to remove an Anderson's Saf-D-Grid power cable connector from a high voltage power supply, press the tab at the top of the connector and pull the connector out of the power supply.
- Step 3** Grasp the power supply handle while pressing the release latch towards the power supply handle.
- Step 4** Place your other hand under the power supply to support it while you slide it out of the chassis.
- Caution** Do not touch the electrical connectors on the back side of the module and prevent anything else from coming into contact with and damaging the connectors.
- Note** The two PSUs in one chassis must be of same in both air direction and power type. If the newly inserted PUS is different from current working PSU in chassis, the newly inserted incompatible PSU will be disabled for system long term stability.
- Note** If the switch must be operated for more than a few minutes with the PSU removed, install a PSU blank plate in the PSU bay. This will ensure proper airflow and temperature within the chassis.

## Installation and Removal of Fan Modules

This section provides instructions for installing and removing the fan modules for the Cisco MDS 9396V switch. You can replace one of the three fan modules even when the switch is operating so long as you perform the replacement within five minutes of removing the old fan module. If you cannot perform the replacement

within five minutes, leave the original fan module in the chassis to maintain the designed airflow until you have the replacement fan module on hand and can perform the replacement.



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**Caution** If you are replacing a module during operation, be sure that the replacement fan module has the correct direction of airflow, which means that it has the same airflow direction as the other fans in the chassis. Also, be sure that the airflow direction takes in air from a cold aisle and sends it out to a hot aisle. Otherwise, the switch can overheat and shut down.

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If you are changing the airflow direction of all the modules in the chassis, you must shut down the switch before replacing all the fan and power supply modules with modules using the other airflow direction. During operations, all the modules must have the same direction of airflow.



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**Note** Fan modules are color coded indicating their airflow direction. Ensure the replacement fan module is of the same color as the remaining fan module in the chassis.

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## Installing a Fan Module

To install a new fan module, follow these steps:

### Before you begin

- A fan slot must be open and ready for the new fan module to be installed.
- You must have a new fan module on hand and ready to install within five minutes of removing the original fan module if the switch is operating.
- The new fan module must have the same airflow direction as the other fan and power supply modules installed in the switch. All of these modules must have either red coloring (port-side intake airflow) or they must all have blue coloring (port-side exhaust airflow).

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- Step 1** Slide the fan module into the fan module bay.
- Step 2** Pinch the colored tab with two fingers and push the fan module tab to get it fully inserted.
- Step 3** Verify that the Status LED turns on and becomes green.
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## Removing a Fan Module

The fan module is designed to be removed and replaced while the system is operating without presenting an electrical hazard or damaging the system.

**Caution**

The Cisco MDS 9000 Family has internal temperature sensors that can shut down the system if the temperature at different points within the chassis exceed certain safety thresholds. To accurately monitor the system temperature, the temperature sensors require sufficient airflow through the chassis. In the event that a fan module is removed from the chassis and the airflow is reduced, the system will increase the speed of the other two fan trays to full speed immediately to prevent undetected overheating. However, the switches will shut down sooner if the major temperature threshold is exceeded.

**Note**

While removing the fan module, keep your hands and fingers away from the spinning fan blades. Let the fan blades completely stop before you remove the fan module. Statement 258

To remove the existing fan module, follow these steps:

- Step 1** Locate the fan module in the back of the switch.
- Step 2** Pinch the colored tab with two fingers.
- Step 3** Grasp the fan module handle and pull it outward.
- Step 4** After the fan blades have stopped spinning, remove the fan module completely from the fan bay.