



# Installing and Upgrading Field Replaceable Units

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## Install and Remove Small Factor Pluggable

### Laser Safety Guidelines

Optical Small-Form Pluggable (SFPs) use a small laser to generate the fiber-optic signal. Keep the optical transmit and receive ports covered whenever a cable is not connected to the port.



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**Warning** Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments. Statement 1051

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**Warning** Ultimate disposal of this product should be handled according to all national laws and regulations. Statement 1040

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**Warning** Pluggable optical modules comply with IEC 60825-1 Ed. 3 and 21 CFR 1040.10 and 1040.11 with or without exception for conformance with IEC 60825-1 Ed. 3 as described in Laser Notice No. 56, dated May 8, 2019. Statement 1255.

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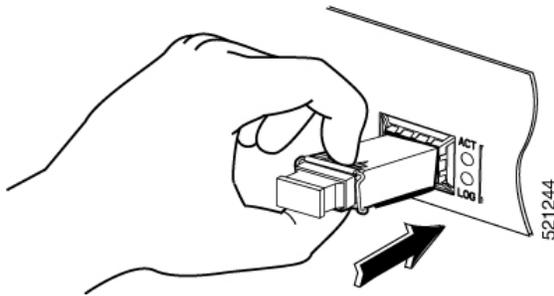
To install an SFP module in your device, perform these steps:

**Step 1** Read the Safety Warnings section and disconnect the power supply before you perform any module replacement.

**Step 2** Slide the SFP into the device connector until it locks into position

**Tip** If the SFP uses a bale-clasp latch (see Laser Safety Guidelines section, the handle should be on top of the SFP module.

*Figure 1: Install a Small-Form Pluggable Module*



**Caution** Do not remove the optical port plugs from the SFP until you are ready to connect cabling.

**Step 3** Connect the network cable to the SFP module.

## Remove Small Form Pluggable Modules

Follow these steps to remove a Small Form Pluggable (SFP) from the device:

**Step 1** Read the Safety Warnings section and disconnect the power supply before you perform any module replacement.

**Step 2** Disconnect all cables from the SFP.

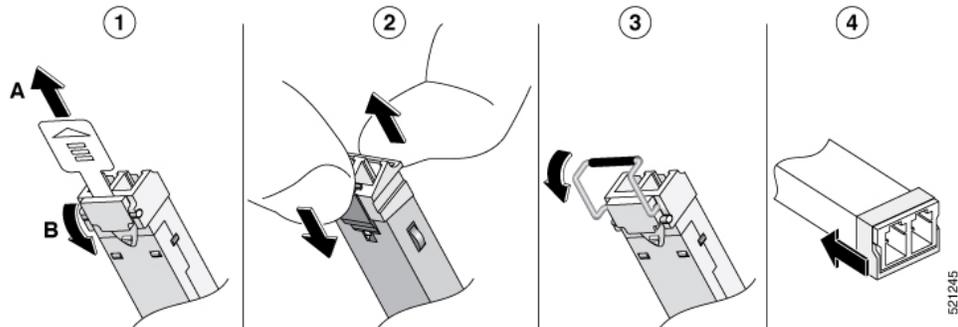
**Warning** Invisible laser radiation may be emitted from disconnected fibers or connectors. Do not stare into beams or view directly with optical instruments. Statement 1051

**Caution** The latching mechanism used on many SFPs locks the SFP into place when cables are connected. Do not pull on the cabling in an attempt to remove the SFP.

**Step 3** Disconnect the SFP latch.

**Note** SFP modules use various latch designs to secure the module in the SFP port. Latch designs are not linked to SFP model or technology type. For information on the SFP technology type and model, see the label on the side of the SFP.

Figure 2: Disconnecting SFP Latch Mechanisms



1	Sliding latch	3	Bale-clasp latch
2	Swing and slide latch	4	Plastic collar latch

**Tip** Use a pen, screwdriver, or other small straight tool to gently release a bale-clasp handle if you cannot reach it with your fingers.

**Step 4** Grasp the SFP on both sides and remove it from the device.

## Removing and Replacing the Chassis Cover

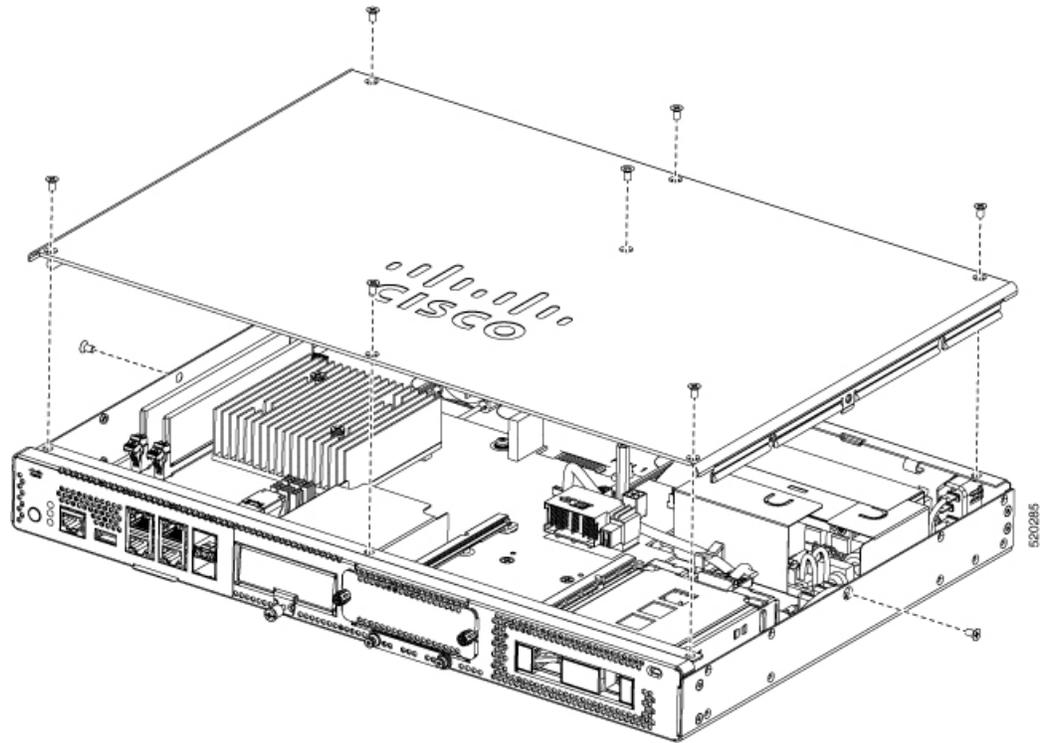


**Warning** Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Statement 1030

These are the steps to remove the chassis cover:

1. Confirm that the chassis is turned off and disconnected from the power supply or power supplies.
2. Place the chassis on a flat surface.
3. Remove the screws at top of the chassis cover.
4. Remove one screw from each side of the device as shown in the following figure.

Figure 3: Removing the Chassis Cover



- Lift the chassis cover after you have removed all the screws.

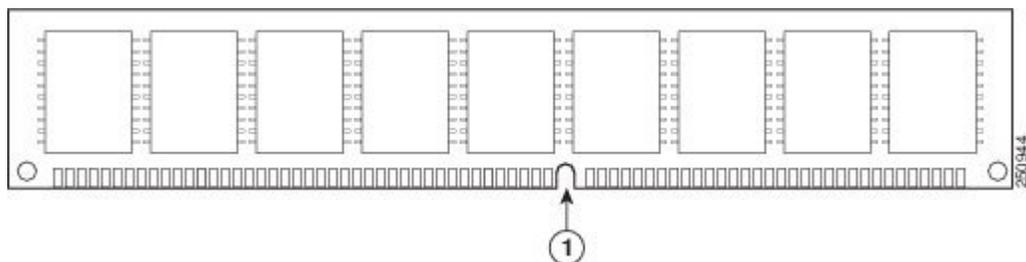


**Note** To replace the chassis cover, place the cover evenly on the top of the device and use the screws to secure it to the device.

## Installing a DIMM

There are two DDR4 DIMM slots. DIMMs have a polarization notch on the connecting edge to prevent incorrect insertion.

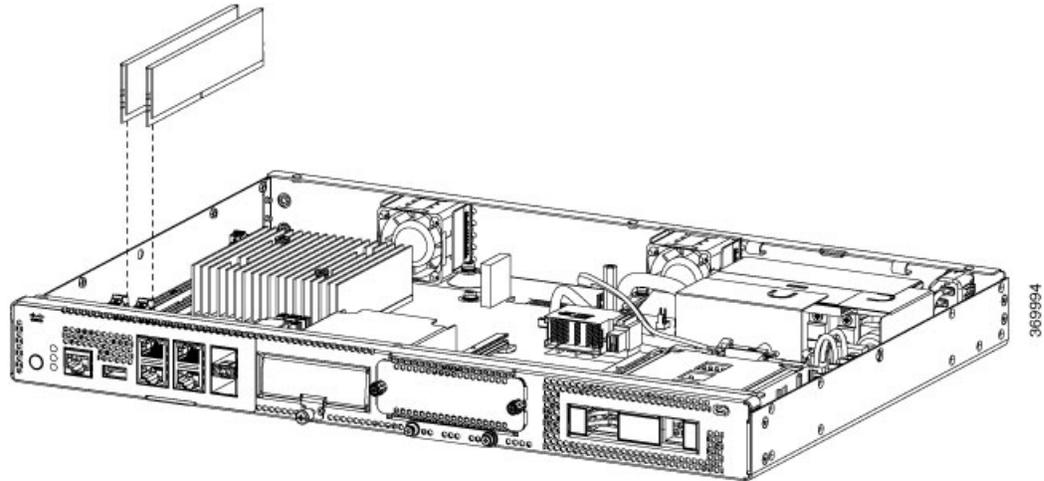
Figure 4: DIMM Showing Polarization Notch



1	Polarization Notch
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These are the steps to install a DIMM:

1. Remove the chassis cover.
2. Locate the DIMM slot on the device. There are two DIMM slots in the chassis and you can install the DIMM module on either of the slots.



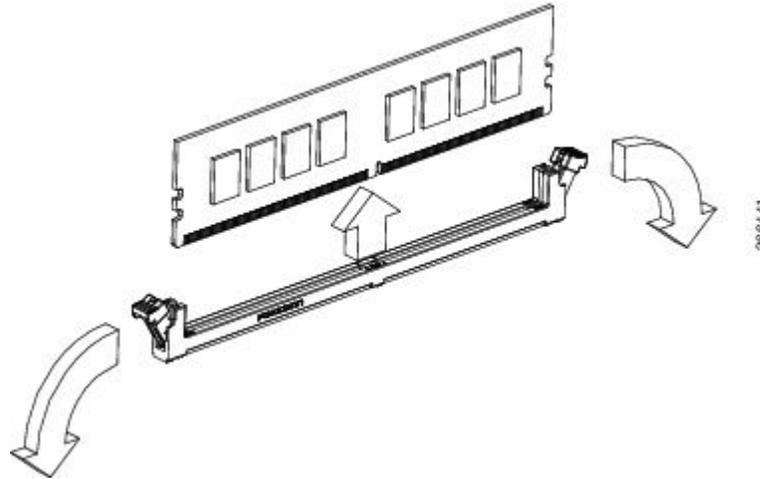
3. Make sure that both latches on the DIMM connector are in the open position.
4. Orient the DIMM so that the polarization notch lines up with the polarization key on the connector.
5. Insert the DIMM into the connector.
6. Replace the chassis cover.

## Removing a DIMM

These are the steps to remove a DIMM:

1. Remove the chassis cover.
2. Locate the DIMM module on the device. Refer to the [Chassis-Internal](#) section to identify and locate the DIMM module.
3. Pull the latches away from the DIMM at both ends to lift the DIMM slightly. Pull the DIMM out of the socket.

Figure 5: Removing a DIMM



4. Place the DIMM in an antistatic bag to protect it from ESD damage.
5. Replace the chassis cover.

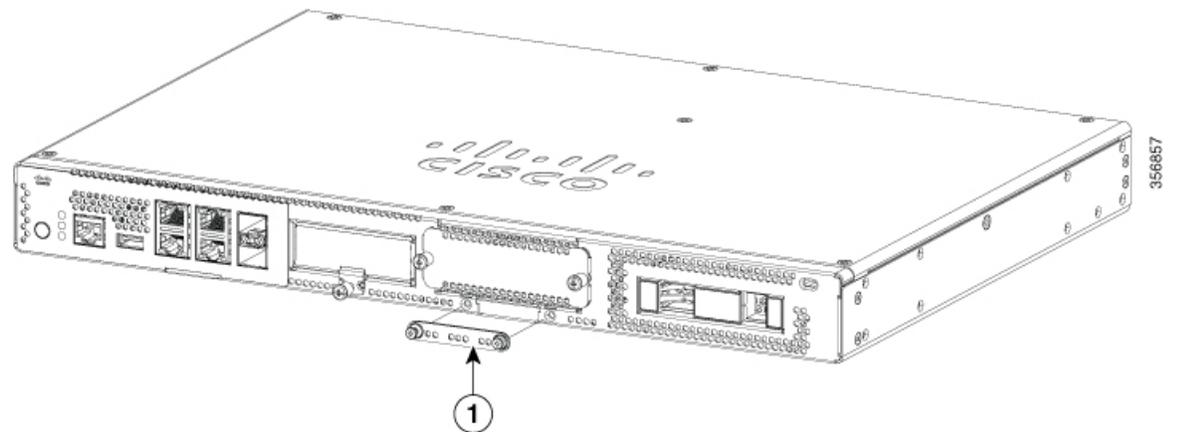
## Installing the M.2 Storage Module

The M.2 storage modules come with different storage capacities and can be replaced through the front panel if required.

These are the steps to upgrade the M.2 storage module:

1. Power off of the system before replacing M.2.
2. Locate the M.2 storage module slot. Refer to Chassis - Front Panel to identify and locate the module.

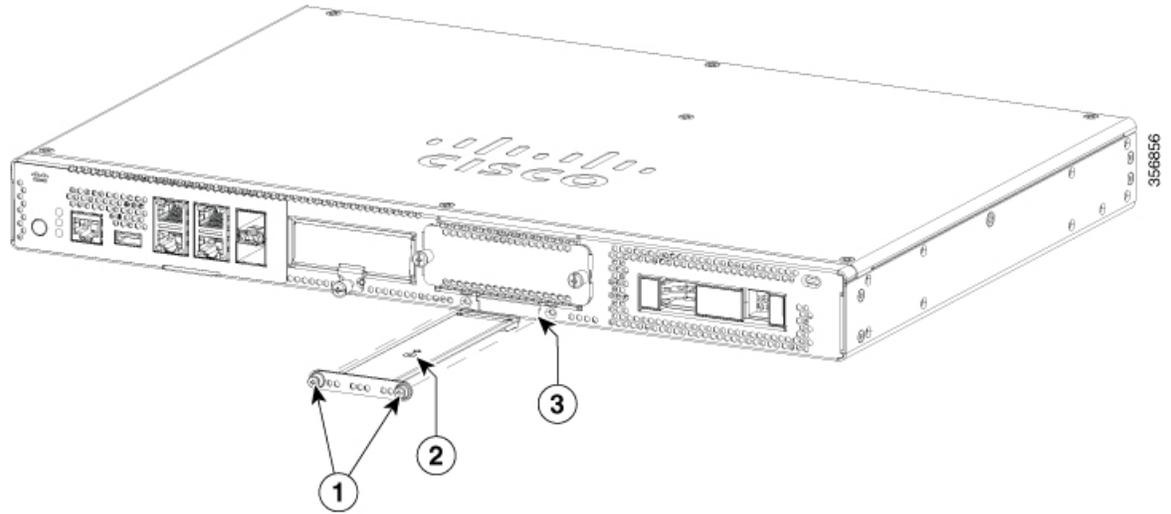
Figure 6: Blank M.2 Slot



1	M.2 slot blank cover
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3. Loosen the screws that secures the M.2 blank cover or existing M.2 module in the slot.

4. Plug in the new M.2 storage module in the same location and secure it with the screws.



1	Securing screws (torque 3.9-5.4 in-lbs)	2	M.2 module orientation with metal carrier on top, M.2 module underneath.
3	Chassis cutout prevents M.2 installation in wrong orientation.		

## Installing and Removing a NIM

These are the steps to install a NIM:

1. Locate the NIM slot on the front panel.
2. Loosen the screws to remove NIM blank cover.
3. Insert the NIM into the slot.
4. Tighten the screws to secure the NIM in the slot.

These are the steps to remove a NIM:

1. If the NIM is up and running, issue the following command to shut down the NIM gracefully before removing it:

```
hw-module subslot slot 0/2 stop
```



### Caution

If you do not shut down the NIM gracefully before removing it, the NIM card could get damaged.

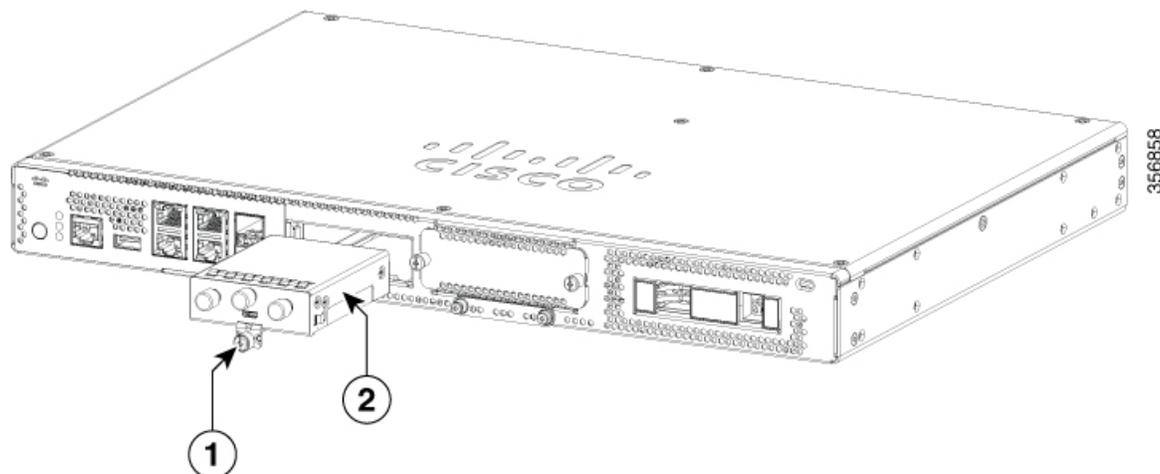
2. Locate the NIM slot on the front panel.
3. Loosen the screws that secure the NIM.
4. Gently pull out the NIM from the slot.

All module slots must have a module or blank installed for the product to work thermally and for safety purposes.

## Installing Pluggable Interface Module

To insert the PIM into the router, do these steps:

1. Insert and then gently push the PIM into the pluggable slot until firmly fixed.
2. Tighten the screw.



1	Securing screw	2	PIM Module
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## Installing Drive Bays

If you have not ordered drives, the drive bay slot is closed with a blank cover.

These are the steps to install a drive in a drive bay:

1. The drive bay is in the front panel of the device. The bay is closed with a cover if there are no drives in the slots.
2. Press the push button on the center of the cover and pull the cover out of the system to expose the slot.
3. Slide the drive into the slot.



**Note** Keep the drive bays covered when there are no drives installed in the slot.