# Install the Appliance

## Appliance Installation Workflow

Complete the tasks described in this chapter to physically install your Catalyst Center appliance. Complete these tasks for each appliance you want to install, and be sure to install all of the appliances before configuring the primary node.

After you have completed all of these tasks successfully, continue with the steps described in Preparation for Appliance Configuration Overview.

## Unpack and Inspect the Appliance

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**Caution**  When handling internal appliance components, wear an ESD strap and handle modules by the carrier edges only.

**Step 1**  Remove the appliance from its cardboard container and save all the packaging material (in case the appliance requires shipping in the future).

**Step 2**  Compare the shipment with the equipment list provided by your customer service representative. Verify that you have all the items.

**Step 3**  Check for damage and report discrepancies or damage, if any, to your customer service representative immediately. Have the following information ready:

- Invoice number of the shipper (see the packing slip)

- Model and serial number of the damaged unit

- Description of damage

- Effect of damage on the installation

# Review the Installation Warnings and Guidelines

**Note** Before you install, operate, or service a server, review the Regulatory Compliance and Safety Information for Cisco UCS C-Series Servers for important safety information.

**Warning** **IMPORTANT SAFETY INSTRUCTIONS**

**This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. Use the statement number provided at the end of each warning to locate its translation in the translated safety warnings that accompanied this device.**

Statement 1071

**Warning** **To prevent the system from overheating, do not operate it in an area that exceeds the maximum recommended ambient temperature of: 95°F (35°C).**

Statement 1047

**Warning** **The plug-socket combination must be accessible at all times, because it serves as the main disconnecting device.**

Statement 1019

**Warning** **This product relies on the building's installation for short-circuit (overcurrent) protection. Ensure that the protective device is rated not greater than: 250 V, 15 A.** Statement 1005

**Warning** **Installation of the equipment must comply with local and national electrical codes.**

Statement 1074

**Warning**    **This unit is intended for installation in restricted access areas. A restricted access area can be accessed only through the use of a special tool, lock, and key, or other means of security.**

Statement 1017

**Caution**    To ensure proper airflow, it is necessary to rack the appliances using rail kits. Physically placing the units on top of one another or *stacking* without the rail kits blocks the air vents on top of the appliances, which could result in overheating, higher fan speeds, and higher power consumption. We recommend that you mount your appliances on rail kits when you are installing them into the rack because these rails provide the minimal spacing required between the appliances. No additional spacing between the appliances is required when you mount the units using rail kits.

**Caution**    Avoid uninterruptible power supply (UPS) types that use ferroresonant technology. These UPS types can become unstable with systems such as the Cisco UCS, which can have substantial current draw fluctuations from fluctuating data traffic patterns.

When you install an appliance, follow these guidelines:

- Plan your site configuration and prepare the site before installing the appliance. See the *Cisco UCS Site Preparation Guide* for help with the recommended site planning and preparation tasks.

- Ensure that there is adequate space around the appliance to enable servicing, and for adequate airflow. The airflow in this appliance is from front to back.

- Ensure that the site's air-conditioning meets the thermal requirements listed in Environmental Specifications.

- Ensure that the cabinet or rack meets the requirements listed in Review the Rack Requirements, on page 3.

- Ensure that the site's power meets the requirements listed in Power Supply Specifications. If available, use a UPS to protect against power failures.

# Review the Rack Requirements

The rack must be of the following type:

- A standard 19-in. (48.3-cm) wide, four-post EIA rack, with mounting posts that conform to English universal hole spacing, per section 1 of ANSI/EIA-310-D-1992.

- The rack-post holes can be square 0.38-inch (9.6 mm), round 0.28-inch (7.1 mm), #12-24 UNC, or #10-32 UNC when you use the Cisco-supplied slide rails.

- For the 32 and 56-core appliance, the minimum vertical rack space per server must be one rack unit (RU), equal to 1.75 in. (44.45 mm).

For the 80-core appliance, the minimum vertical rack space per server must be two rack units (RUs), equal to 3.5 in. (88.9 mm).

### Supported Cisco Slide Rail Kits

The server supports the following rail kit options:

- Cisco part UCSC-RAIL-M6= (ball-bearing slide rail kit)

- Cisco part UCSC-CMA-C220M6= (reversible cable management arm for the 32 and 56-core appliance's ball-bearing slide rail kit)

- Cisco part UCSC-CMA-C240M6= (reversible cable management arm for the 80-core appliance's ball-bearing slide rail kit)

### Rack Installation Tools Required

The slide rails sold by Cisco Systems for this server do not require tools for installation.

### Slide Rail and Cable Management Arm Dimensions

The slide rails for this server have an adjustment range of 24 to 36 inches (610 to 914 mm).

The optional cable management arm adds additional length requirements:

- The additional distance from the rear of the server to the rear of the CMA is 5.4 inches (137.4 mm) for the 32 and 56-core appliance and 7.6 inches (193 mm) for the 80-core appliance.

- The total length of the server including the CMA is 35.2 inches (894 mm) for the 32 and 56-core appliance and 37.6 inches (955 mm) for the 80-core appliance.

# Connect and Power On the Appliance

Describes how to power on the appliance and check that it's functional.

**Step 1**   Attach a supplied power cord to each power supply in the appliance and then attach the power cords to a grounded AC power outlet. See Power Supply Specifications for details.

| **Note** | You can use either one or both of the power supplies that come with the appliance. One power supply is mandatory; one more can be added for 1 + 1 redundancy. |

Wait for approximately two minutes to let the appliance boot into standby power mode during the first boot up.

The Power Status LED indicates the appliance's power status:

- Green—All power supplies are operating normally.

- Amber, steady—One or more power supplies are in a degraded operational state.

- Amber, blinking—One or more power supplies are in a critical fault state.

For more information on these and other appliance LEDs, see the "Front and Rear Panels" topic for your appliance:

- 32 and 56-core appliance

- 80-core appliance

**Step 2**    Connect a USB keyboard and VGA monitor to the server, using the supplied KVM cable connected to the KVM connector on the front panel. Alternatively, you can use the VGA and USB ports on the rear panel. You can only connect to one VGA interface at a time.

# Check the LEDs

After you have powered up the appliance, check the state of the front-panel and rear-panel LEDs to ensure it is functioning. Click the appropriate link to view a description of your appliance's LEDs

## 32 and 56-Core Appliances

The following illustrations show the LEDs for a functional appliance after physical installation and first power-up and before configuration.
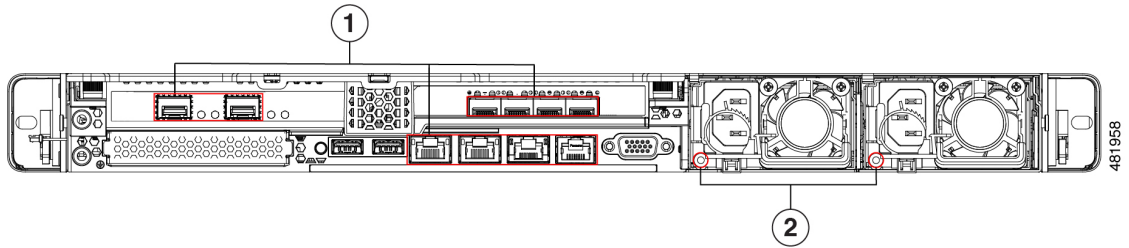
*Figure 1: 32 and 56-Core Appliance Front Panel LEDs*
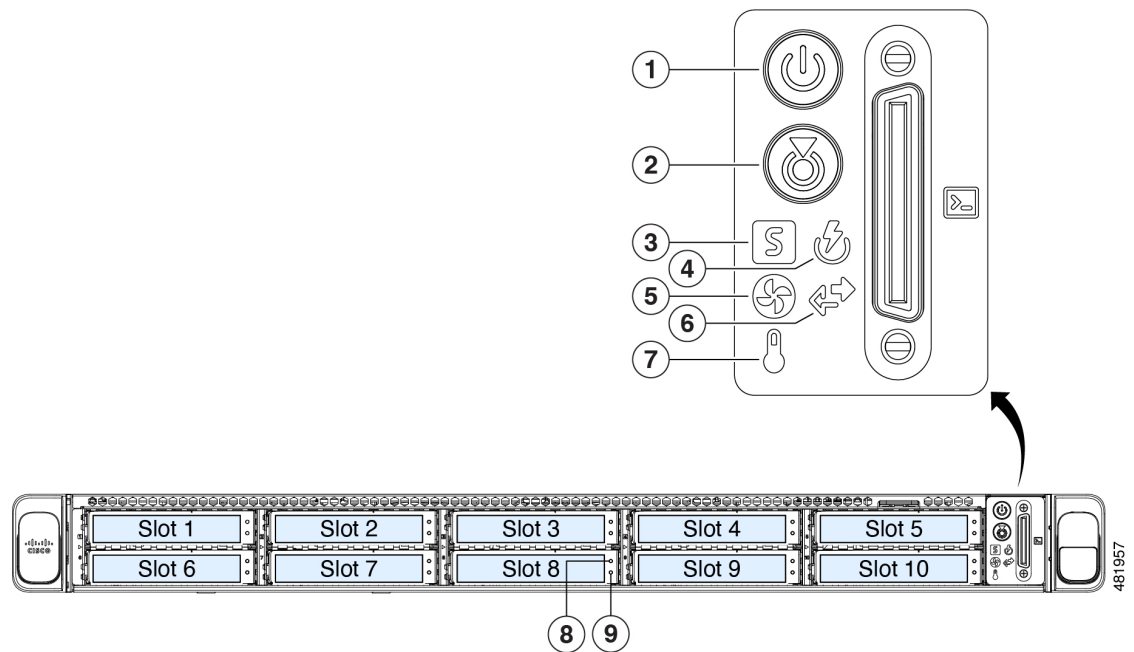


| ID | Desired Status Indicator |
|----|--------------------------|
| 1  | Power Status: Green      |
| 2  | Unit identification: Off |
| 3  | System Status: Green     |

| ID | Desired Status Indicator |
|----|--------------------------|
| 4  | Power Supply Status: Green |
| 5  | Fan Status: Green |
| 6  | Network Link Activity: Off |
| 7  | Temperature Status: Green |
| 8  | Drive Fault LED: Off |
| 9  | Drive Activity LED: Green |

*Figure 2: 32 and 56-Core Appliance Rear Panel LEDs*
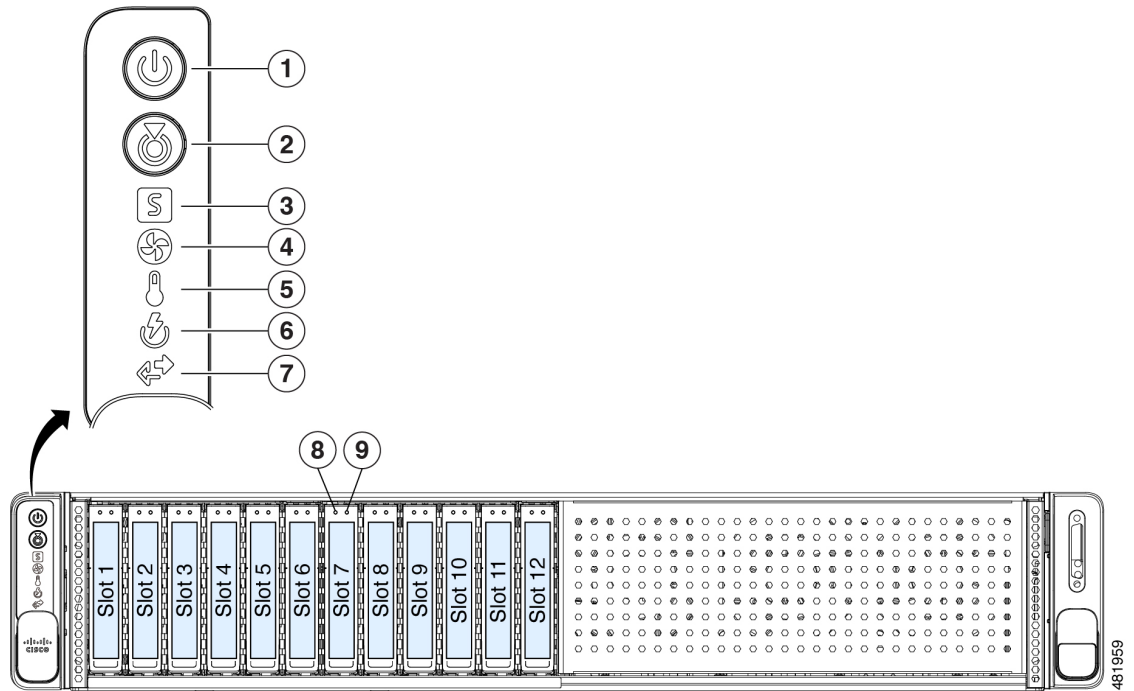


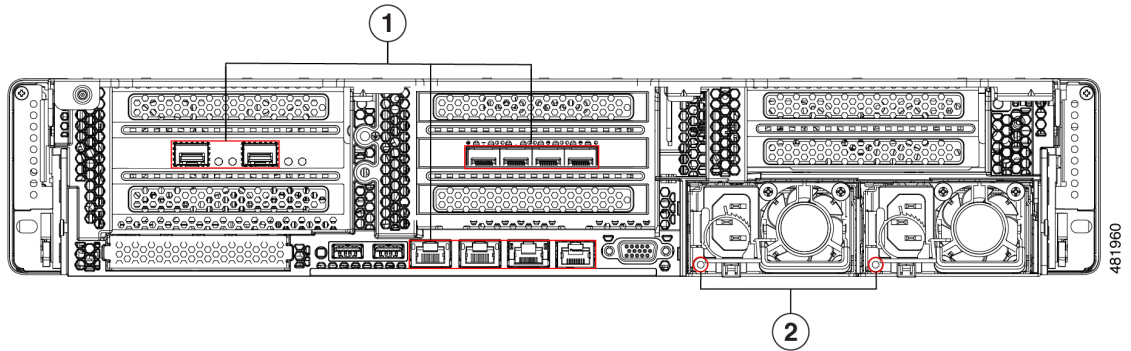| ID | Desired Status Indicator |
|----|--------------------------|
| 1  | After initial power-up, all the ports should have their Link Status and Link Speed LEDs showing as off. After network settings are configured and tested using either the Maglev Configuration wizard or browser-based configuration wizard, the Link Status and Link Speed LEDs for all **cabled** ports should be green. The LED for all **uncabled** ports should remain unchanged. |
| 2  | AC Power Supply Status LEDs: Green |

# 80-Core Appliance

The following illustrations show the LEDs for a functional appliance after physical installation and first power-up and before configuration.

*Figure 3: 80-Core Appliance Front Panel LEDs*

| ID | Desired Status Indicator |
|---|---|
| 1 | Power Status: Green |
| 2 | Unit identification: Off |
| 3 | System Status: Green |
| 4 | Fan Status: Green |
| 5 | Temperature Status: Green |
| 6 | Power Supply Status: Green |
| 7 | Network Link Activity: Off |
| 8 | Drive Fault LED: Off |
| 9 | Drive Activity LED: Green |

*Figure 4: 80-Core Appliance Rear Panel LEDs*



| ID | Desired Status Indicator |
|----|--------------------------|
| 1 | After initial power-up, all the ports should have their Link Status and Link Speed LEDs showing as off. |
| | After network settings are configured and tested using either the Maglev Configuration wizard or browser-based configuration wizard, the Link Status and Link Speed LEDs for all **cabled** ports should be green. The LED for all **uncabled** ports should remain unchanged. |
| 2 | AC Power Supply Status LEDs: Green |