Spec Sheet

# Cisco Compute Hyperconverged with vSAN

## HCIVS240C M8 All-NVMe E3.S vSAN ReadyNode

**A printed version of this document is only a copy and not necessarily the latest version. Refer to the following link for the latest released version:**
**https://www.cisco.com/c/en/us/products/hyperconverged-infrastructure/compute-hyperconverged/datasheet-listing.html**

**CISCO SYSTEMS**
170 WEST TASMAN DR
SAN JOSE, CA, 95134
**WWW.CISCO.COM**

**PUBLICATION HISTORY**

REV A.01 SEPTEMBER 24, 2025

# CONTENTS

# CONTENTS

# OVERVIEW

VMware vSAN Express Storage Architecture (ESA) is a software-defined storage solution that runs natively as part of ESXi hypervisor. It aggregates local storage from multiple hosts to create a shared storage pool for virtual machines that can then be accessed by all hosts in the vSAN cluster.

Cisco Compute Hyperconverged with vSAN solutions are purpose-built platforms that unify compute, storage, and networking into a single, software-defined infrastructure. Cisco and VMware by Broadcom have partnered to deliver a robust, scalable, and high-performance hyperconverged infrastructure (HCI) solution for modern workloads.

VMware vSAN ReadyNodes is pre-configured, tested, and jointly certified by Broadcom and Cisco to deliver enterprise-grade storage performance and reliability for IT customers. When deployed on Cisco UCS® servers qualified as vSAN Ready Nodes customers can confidently build a robust hyperconverged infrastructure stack that maximizes hardware utilization, simplifies operations, and scales linearly with business growth.

The Cisco Compute Hyperconverged HCIVS240C M8 All-NVMe E3.S vSAN ReadyNode harnesses the power of the latest Intel® Xeon® 6 Scalable Processors and offers the following:

**CPU:** 2x Intel® Xeon® 6 Scalable Processors with up to 86 cores per processor.

**Memory:** Up to 8TB with 32 x 256GB DDR5-6400 DIMMs, in a 2-socket configuration with Intel® Xeon® 6 Scalable Processors.

**Drives:** Up to 24 front facing E3.S NVMe solid state drives (SSDs).

See *Figure 1 on page 3* for front and rear views of The Cisco Compute Hyperconverged HCIVS240C M8 All-NVMe E3.S vSAN ReadyNode.

**Figure 1 The Cisco Compute Hyperconverged HCIVS240C M8 All-NVMe E3.S vSAN ReadyNode**

Front View (all slots shown unpopulated - see *Figure 2 on page 4* for details)

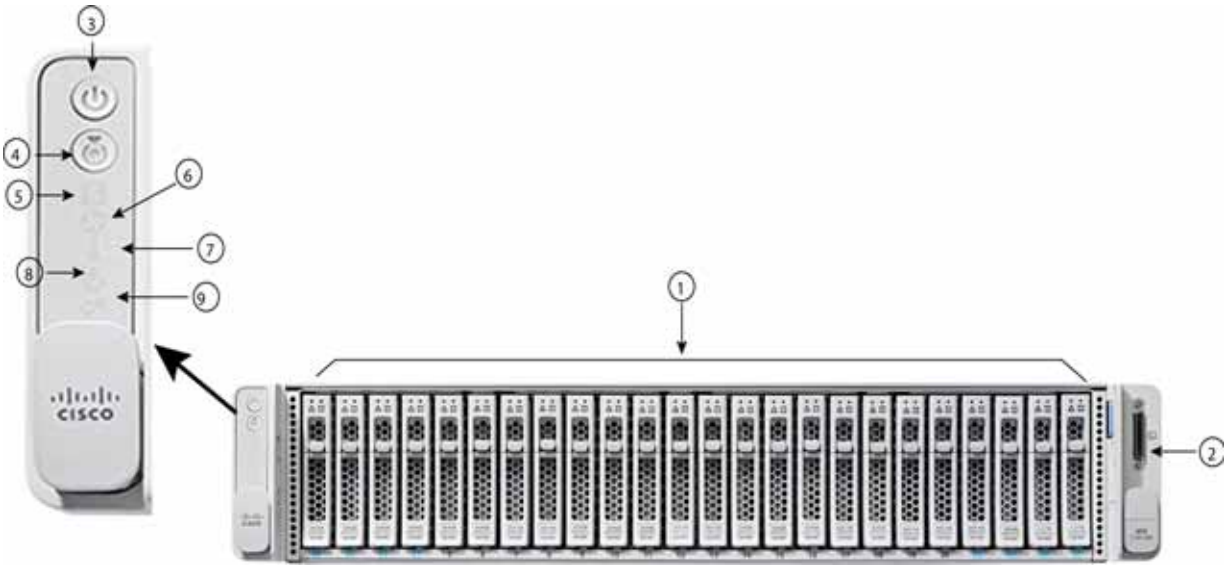
Rear View (all slots shown unpopulated - see *Figure 3 on page 5* for details)

# DETAILED VIEWS

## Chassis Front View

*Figure 2* shows the front view of the server configured with 32 front drives.

**Figure 2 Chassis Front View**

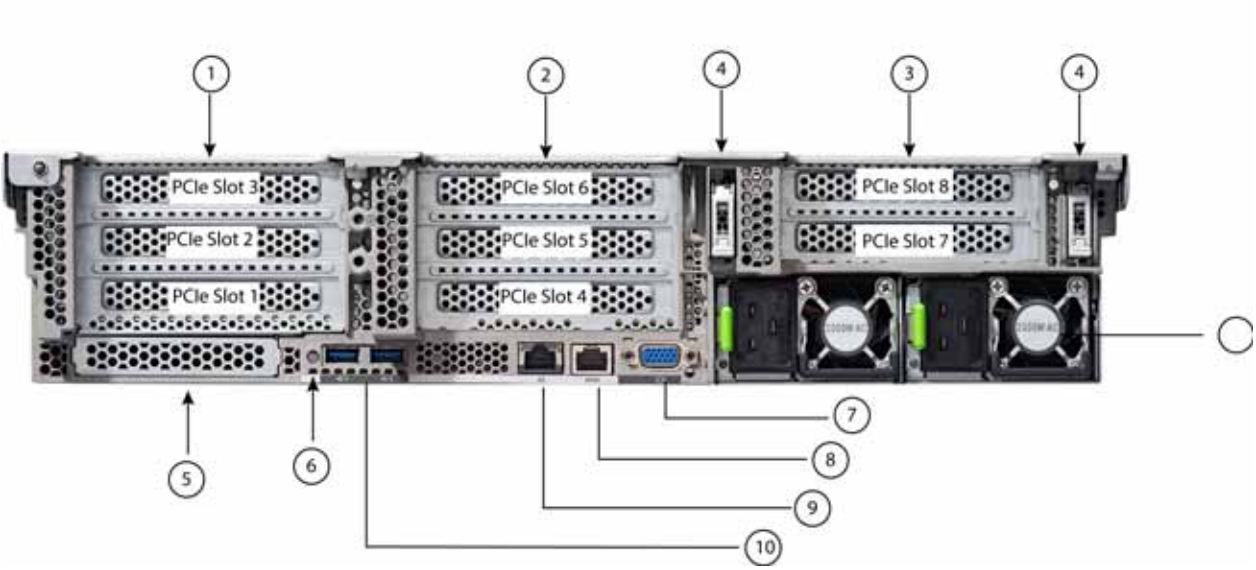



| | | | |
|---|---|---|---|
| **1** | Drive bays 1 – 32 support E3.S 1T direct attach NVMe | **6** | Fan status LED |
| **2** | KVM connector<br>(used with KVM cable that provides two USB 2.0, one VGA, and one serial connector) | **7** | Temperature status LED |
| **3** | Power button/Power status LED | **8** | Power supply status LED |
| **4** | Unit Identification button/LED | **9** | Network link activity LED |
| **5** | System status LED | **-** | - |

## Chassis Rear View

*Figure 2* shows the rear view of the server

**Figure 3 Chassis Rear View**




| | | | |
|---|---|---|---|
| **1** | There are two Riser 1 options:<br>**Riser 1A (Gen 5, CPU1 control)**<br>Supports three Gen 5 PCIe slots:<br>■ Slot 1 is full-height, 3/4 length, x8, NCSI, single wide GPU<br>■ Slot 2 is full-height, full-length, x16, NCSI, single/double wide GPU<br>■ Slot 3 is full-height, full-length, x8, no NCSI, single wide GPU<br>**Riser 1C (Gen 5, CPU1 control)**<br>Supports two Gen 5 PCIe slots:<br>■ Slot 1 is full-height, 3/4 length, x16, NCSI, single wide GPU<br>■ Slot 2 is full-height, full-length, x16, no NCSI, single/double wide GPU | **7** | VGA display port (DB15 connector) |
| **2** | There are two Riser 2 options:<br>**Riser 2A (Gen 5, CPU2 control)**<br>Supports three Gen 5 PCIe slots:<br>■ Slot 4 is full-height, 3/4 length, x8, NCSI, single wide GPU<br>■ Slot 5 is full-height, full-length, x16, NCSI, single/double wide GPU<br>■ Slot 6 is full-height, full length, x8, no NCSI, single wide GPU<br>**Riser 2C (Gen 5, CPU2 control)**<br>Supports two Gen 5 PCIe slots:<br>■ Slot 4 is full-height, 3/4 length, x16, NCSI, single wide GPU<br>■ Slot 5 is full-height, full-length, x16, no NCSI, single/double wide GPU | **8** | COM port (RJ45 connector) |

| | | | |
|---|---|---|---|
| **3** | There are two Riser 3 options<br>**Riser 3A (CPU2 control)**<br>Supports two PCIe slots:<br>■ Slot 7 is full-height, full-length, x8, no NCSI, single wide GPU<br>■ Slot 8 is full-height, full-length, x8, no NCSI, single wide GPU<br>**Riser 3C (for GPU, CPU2 control)**<br>Supports one PCIe Slot:<br>■ Slot 7 is one full-height, full-length, x16, no NCSI, double wide GPU<br>■ Slot 8 is blocked by double wide GPU (not used) | **9** | 1 GbE dedicated Ethernet management port |
| **4** | Drive bays 243 and 244, support SATA M.2 drives or hot-swappable M.2 | **10** | USB 3.0 ports (two) |
| **5** | Modular LAN on motherboard (mLOM)/OCP 3.0 slot or hot-swappable M.2 module (drive bays 241 and 242). | **11** | Power supplies (two) |
| **6** | System ID pushbutton/LED | **-** | - |

# BASE SERVER STANDARD CAPABILITIES and FEATURES

*Table 1* lists the capabilities and features of the base server. Details about how to configure the server for a particular feature or capability (for example, number of processors, drives, or amount of memory) are provided in **CONFIGURING the SERVER, page 9**.

**Table 1 Capabilities and Features**

| Capability/Feature | Description |
|---|---|
| Chassis | ■ Two rack unit (2RU) chassis |
| CPU | ■ Two Intel® Xeon® 6 Scalable Processors<br>■ Each CPU has 8 channels with up to 2 DIMMs per channel, for up to 16 DIMMs per CPU<br>■ UPI Links: Up to 4 at 24GT/s |
| Memory | ■ 32 total DDR5-6400 MT/s DIMM slots with Intel® Xeon® 6 Scalable Processors (16 per CPU)<br>■ Up to 16x MRDIMM 8000MT/s |
| Video | The Cisco Integrated Management Controller (CIMC) provides video using the Matrox G200e video/graphics controller:<br>■ Integrated 2D graphics core with hardware acceleration<br>■ Embedded DDR memory interface supports up to 512 MB of addressable memory (8 MB is allocated by default to video memory)<br>■ Supports display resolutions up to 1920 x 1200 16bpp @ 60Hz<br>■ High-speed integrated 24-bit RAMDAC<br>■ Single lane PCI-Express host interface running at Gen 1 speed |
| Power subsystem | Up to two of the following hot-swappable power supplies:<br>■ 1050W (DC)<br>■ 1200W (AC)<br>■ 1600 W (AC)<br>■ 2300 W (AC)<br>One power supply is mandatory; one more can be added for 1 + 1 redundancy. |
| Front Panel | ■ A front panel controller provides status indications and control buttons |
| ACPI | ■ This server supports the advanced configuration and power interface (ACPI) 6.2 standard. |
| Fans | ■ Six hot-swappable fans for front-to-rear cooling |
| Expansion slots | ■ Riser 1A (three Gen 5 PCIe slots)<br>■ Riser 1C (two Gen 5 PCIe slots)<br>■ Riser 2A (three Gen 5 PCIe slots)<br>■ Riser 2C (two Gen 5 PCIe slots)<br>■ Riser 3A (two Gen 5 PCIe slots)<br>■ Riser 3C (one Gen5 PCIe Slot) |

**Table 1 Capabilities and Features** *(continued)*

| Capability/Feature | Description |
|---|---|
| Interfaces | ■ Rear panel:<br>• One 1Gbase-T RJ-45 management port<br>• One RS-232 serial port (RJ45 connector)<br>• One DB15 VGA connector<br>• Two USB 3.0 port connectors<br>• One flexible modular LAN on motherboard (mLOM)/OCP 3.0 slot that can accommodate various interface cards.<br>■ Front panel:<br>• One KVM console connector (supplies two USB 2.0 connectors, one VGA DB15 video connector, and one serial port (RS232) RJ45 connector) |
| Integrated management processor | ■ Baseboard Management Controller (BMC) running Cisco Integrated Management Controller (CIMC) firmware.<br>■ Depending on your CIMC settings, the CIMC can be accessed through the 1GE dedicated management port. Cisco virtual interface card (VIC). |
| Internal storage devices | **Drive storage:**<br>■ Two to twenty-four E3.S NVMe solid state drives (SSDs)<br>**Other storage:**<br>■ A mini-storage module connector on the motherboard supports a boot-optimized RAID controller carrier that holds two SATA M.2 used for hypervisor boot. |
| PCIe | ■ Up to 3 PCIe 5.0 half-height slots or up to 2 PCIe 5.0 full-height slots and 1 dedicated mLOM/OCP 3.0 slot |
| Graphical Processing Units (GPUs) | ■ Up to three double-wide or eight single-wide GPUs supported |
| CIMC | ■ Cisco Integrated Management Controller 4.3 (6) or later |
| Intersight | ■ Intersight provides server management capabilities |

# CONFIGURING the SERVER

Follow these steps to configure the Cisco Compute Hyperconverged HCIVS240C M8 All-NVMe E3.S vSAN ReadyNode:

## STEP 1 SELECT SERVER SKU

Top level ordering product ID (PID) is shown in *Table 2*.

**Table 2 Top Level Major Line Bundle ordering PIDs (MLB)**

| Product ID (PID) | Description |
|---|---|
| HCI-M8-VSAN-MLB | Cisco Compute Hyperconverged M8 with vSAN MLB |

Select one product ID (PID) as shown in *Table 3*.

**CAUTION:** This product may not be purchased outside of the approved bundles (must be ordered under the MLB)

**Table 3 PID of the Base Server**

| Product ID (PID) | Description |
|---|---|
| HCIVS240C-M8E3S | Cisco Compute Hyperconverged HCI 240cM8 E3.S vSAN Node |

**The Cisco Compute Hyperconverged HCIVS240C M8 All-NVMe E3.S vSAN ReadyNode:**

- Includes a 32 drive backplane.
- Does not include power supply, CPU, memory, drives, riser 1, riser 2, riser 3, tool-less rail kit, or PCIe cards.
- Use the steps on the following pages to configure the server with the components that you want to include.

# STEP 2 AI INTENT (OPTIONAL)

### Select AI Intent

- The available AI Intent options are listed in *Table 4*.

**Table 4 AI Intent**

| Product ID (PID) | Description |
|---|---|
| COMPUTE-AI | Compute Artificial Intelligence Use Case |
| COMPUTE-OTHER | Compute Other Use Case |

## STEP 3 SELECT MANAGMENT MODE (REQUIRED)

The available management modes are listed in *Table 5*.

**Table 5 Management Modes**

| Product ID (PID) | Description |
|---|---|
| IMM-MANAGED | Deployment mode for UCS FI connected Servers in IMM mode |
| UMM-MANAGED | Deployment mode for UCS FI connected Servers in UCSM mode |
| ISM-MANAGED | Deployment mode for C Series Servers in Standalone mode |

**NOTE:** Cisco UCS M8 servers are the last generation to support UCS Manager (UCSM). Any customers choosing to use UCSM with M8 servers should proactively plan to transition to IMM by 2027.

## STEP 4 SELECT RISER CARDS (REQUIRED)

Select desired risers from *Table 6*.

**Table 6 PIDs of the Risers**

| Product ID (PID) | Description |
|---|---|
| **Riser 1 Options** | |
| UCSC-RIS1A-240M8 (I/O riser) | UCS C240 M8 Riser 1A PCIe Gen5 (x8, x16, x8)<br>■ Slot 1 is full-height, 3/4 length, x8, Supports NCSI and single wide GPU<br>■ Slot 2 is full-height, full-length, x16, Supports NCSI and single/double wide GPU<br>■ Slot 3 is full-height, full-length, x8, Supports single wide GPU |
| UCSC-RIS1C-240M8 (I/O riser) | UCS C240 M8 Riser 1C PCIe Gen5 (2x16) FH<br>■ Slot 1 is full-height, 3/4 length, x16, Supports NCSI and single wide GPU<br>■ Slot 2 is full-height, full-length, x16, supports single/double wide GPU |
| **Riser 2 Options (2-CPU must be selected)** | |
| UCSC-RIS2A-240M8 (I/O riser) | UCS C240 M8 Riser 2A PCIe Gen5 (x8, x16, x8) (controlled with CPU2)<br>■ Slot 4 is full-height, 3/4 length, x8, Supports NCSI and single wide GPU<br>■ Slot 5 is full-height, full-length, x16, Supports NCSI and single/double wide GPU<br>■ Slot 6 is full-height, full length, x8, Supports single wide GPU |
| UCSC-RIS2C-240M8 (I/O riser) | UCS C240 M8 Riser 2C PCIe Gen5 (2x16) (controlled with CPU2)<br>■ Slot 4 is full-height, 3/4 length, x16, Supports NCSI and single wide GPU<br>■ Slot 5 is full-height, full-length, x16, Supports single/double wide GPU |
| **Riser 3 Options (2-CPU must be selected)** | |
| UCSC-RIS3A-240M8 (I/O riser) | UCS C240 M8 Riser 3A PCIe Gen5 (controlled with CPU2)<br>■ Slot 7 is full-height, full-length, x8<br>■ Slot 8 is full-height, full-length, x8 |
| UCSC-RIS3C-240M8 | UCS C240 M8 Riser 3C PCIe Gen5 (x16) (controlled with CPU2)<br>■ Slot 7 is one full-height, full-length, x16, Supports double wide GPU<br>■ Slot 8 is blocked by double wide GPU (not used) |
| **Accessories/spare included along with selected risers:**<br>■ UCSC-FBRS2-C240-D for riser 2 and UCSC-FBRS3-C245 riser filler blank for riser 3 is auto included, if riser 2 or riser 3 are not selected. | |

## STEP 5 SELECT CPU(s) (REQUIRED)

The standard CPU features are:

- Up to 86 cores
- Cache size of up to 336 MB
- Power: Up to 350 Watts
- UPI Links: Up to 4 at 24GT/s

**Select CPUs from** *Table 7*

**CAUTION:**

- Normal operating temperature is limited to 35º C [95º F], and is lowered to 28º C [82.4º F], with a fan fault. When rear drives are installed, the normal operating temperature is lowered to 30º C [86º F], and 26º C [78.8º F], respectively with a fan fault.
- With multiple GPU>75W installed, normal operating temperature is 30º C [86º F], lowered to 25º C [77º F], with a fan fault.
- When a GPU>75W is installed, CPUs with TDP greater than 330W are not supported

**Table 7 Available Intel® Xeon® 6 Scalable CPUs**

| Product ID | Segment/ Workload | Maximum Socket | Cores | Clock Freq | Power | Cache Size | Highest DDR5 DIMM Clock |
|---|---|---|---|---|---|---|---|
| (PID) | | (S) | (C) | (GHz) | (W) | (MB) | (MT/s) |
| UCS-CPU-I6787P | Performance | 2S | 86 | 2.00 | 350 | 336 | 6400 |
| UCS-CPU-I6781P[1] | Single Socket | 1S | 80 | 2.00 | 350 | 336 | 6400 |
| UCS-CPU-I6767P | Performance | 2S | 64 | 2.40 | 350 | 336 | 6400 |
| UCS-CPU-I6761P[1] | Single Socket | 1S | 64 | 2.50 | 350 | 336 | 6400 |
| UCS-CPU-I6760P | Mainline | 2S | 64 | 2.20 | 330 | 320 | 6400 |
| UCS-CPU-I6747P | Performance | 2S | 48 | 2.70 | 330 | 288 | 6400 |
| UCS-CPU-I6741P[1] | Single Socket | 1S | 48 | 2.50 | 300 | 288 | 6400 |
| UCS-CPU-I6740P | Mainline | 2S | 48 | 2.10 | 270 | 288 | 6400 |
| UCS-CPU-I6736P | Performance | 2S | 36 | 2.00 | 205 | 144 | 6400 |
| UCS-CPU-I6745P | Performance | 2S | 32 | 3.10 | 300 | 336 | 6400 |
| UCS-CPU-I6737P | Performance | 2S | 32 | 2.90 | 270 | 144 | 6400 |
| UCS-CPU-I6731P[1] | Single Socket | 1S | 32 | 2.50 | 245 | 144 | 6400 |
| UCS-CPU-I6730P | Performance | 2S | 32 | 2.50 | 250 | 288 | 6400 |

**Table 7 Available Intel® Xeon® 6 Scalable CPUs**

| Product ID | Segment/ Workload | Maximum Socket | Cores | Clock Freq | Power | Cache Size | Highest DDR5 DIMM Clock |
|---|---|---|---|---|---|---|---|
| (PID) | | (S) | (C) | (GHz) | (W) | (MB) | (MT/s) |
| UCS-CPU-I6530P | Mainline | 2S | 32 | 2.30 | 225 | 144 | 6400 |
| UCS-CPU-I6728P | Socket scalable | 4S | 24 | 2.70 | 210 | 144 | 6400 |
| UCS-CPU-I6527P | Performance | 2S | 24 | 3.00 | 255 | 144 | 6400 |
| UCS-CPU-I6521P[1] | Single Socket | 1S | 24 | 2.60 | 225 | 144 | 6400 |
| UCS-CPU-I6520P | Mainline | 2S | 24 | 2.40 | 210 | 144 | 6400 |
| UCS-CPU-I6511P[1] | Single Socket | 1S | 16 | 2.50 | 150 | 72 | 6400 |
| UCS-CPU-I6724P | Performance | 4S | 16 | 3.60 | 210 | 72 | 6400 |
| UCS-CPU-I6517P | Performance | 2S | 16 | 3.20 | 190 | 72 | 6400 |
| UCS-CPU-I6515P | Mainline | 2S | 16 | 2.40 | 150 | 72 | 6400 |
| UCS-CPU-I6505P | Mainline | 2S | 12 | 2.20 | 150 | 48 | 6400 |
| UCS-CPU-I6714P | Performance | 4S | 8 | 4.00 | 165 | 48 | 6400 |
| UCS-CPU-I6507P | Performance | 2S | 8 | 3.50 | 150 | 48 | 6400 |

**Accessories/spare included with CPU configuration:**

- UCSC-HSLP-C240M8
- UCSC-HSLP-C220M8 if UCSC-GPUAD-240M8 is selected

**NOTE:** if you are adding a second CPU later, you may need to order accessories spares with it.

**Notes:**

1. Single Socket only CPUs

**Table 8 CPU PID Decoder**

| Identifier#1 | Identifier#2 | Identifier#3 | Identifier#4 | Identifier#5 | Identifier#6 | Identifier#7 |
|---|---|---|---|---|---|---|
| **Cisco Product Family**<br><br>UCS | **CPU supplier**<br><br>**I:** Intel | **CPU Generation**<br><br>**6:** 6th Generation | **SKU Tier**<br><br>**5:** GNR-SP Mid Tier<br>**7:** GNR-SP High Tier | **CPU SKU (2 digits)**<br><br>**Examples:** 20, 34, 48 See detailed SKUs stack from supplier<br>**11, 21, 31, 41, 61, 81:** single-socket | **Core Architecture**<br><br>**P:** P-Core | **Option/Spare CPU**<br><br>**Blank:** Option<br>**=:** Spare |

### Supported Configurations

- 1-CPU Configuration:
  - Choose one CPU from *Table 7*
- 2-CPU Configuration:
  - Choose two identical CPUs from *Table 7*

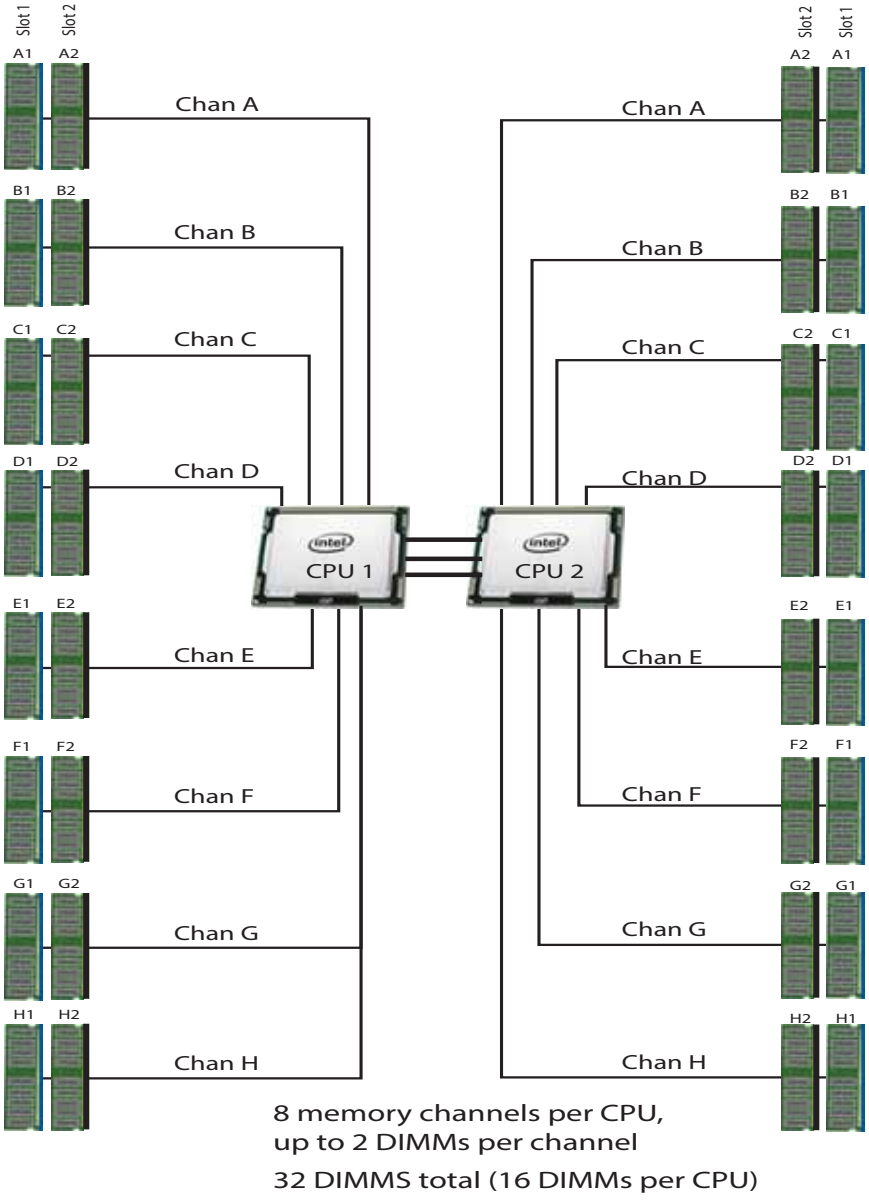
## STEP 6 SELECT MEMORY (REQUIRED)

The *Table 9* below describes the main memory DIMM features supported on the server.

**Table 9 Server Main Memory Features**

| Memory server technologies | Description |
|---|---|
| Intel® Xeon® CPU generation | Intel® Xeon® 6 CPUs |
| DDR5 memory clock speed | Up to 6400 MT/s 1DPC; Up to 5200 MT/s 2DPC |
| Operational voltage | 1.1 Volts |
| DRAM fab density | 16Gb, 24Gb and 32Gb |
| Memory type | RDIMM (Registered DDR5 DIMM) |
| Memory DRAM DIMM/MRDIMM organization | Eight memory DIMM channels per CPU; up to 2 DIMMs Per Channel |
| Maximum number of DRAM DIMM/MRDIMM per server | 32 (2-Socket) |
| DRAM DIMM/MRDIMM Densities and Ranks | 16GB 1Rx8, 32GB 1Rx4, 48GB 1Rx4, 64GB 2Rx4, 96GB 2Rx4, 128GB 2Rx4, 256GB 4Rx4 |
| Maximum system memory capacity | 8TB (32x256GB) |

**Figure 4 Memory Organization**



### Select DIMMs

The available memory DIMMs are listed in *Table 10*.

**Table 10 Memory Options for Servers With Intel® Xeon® 6th Gen. CPUs**

| Product ID (PID) | PID Description | Ranks/DIMM |
|---|---|---|
| **DDR5-6400 MT/s Cisco Memory PIDs list** | | |
| UCS-MRX16G1RE5 | 16GB RDIMM 1Rx8 1.1Volts (16Gb) | 1 |
| UCS-MRX32G1RE5 | 32GB RDIMM 1Rx4 1.1Volts (16Gb) | 1 |
| UCS-MRX64G2RE5 | 64GB RDIMM 2Rx4 1.1Volts (16Gb) | 2 |
| UCS-MRX48G1RF5 | 48GB DDR5-6400RDIMM 1Rx4 (24Gb) | 2 |
| UCS-MRX96G2RF5 | 96GB RDIMM 2Rx4 1.1Volts (24Gb) | 2 |
| UCS-MR128G2RG5 | 128GB RDIMM 2Rx4 1.1Volts (32Gb) | 2 |
| UCS-MR256G4RG5 | 256GB RDIMM 4Rx4 1.1Volts (32Gb) | 4 |
| **Accessories/spare included with Memory configuration:**<br>■ UCS-DDR5-BLK[1] is auto included for the unselected DIMMs slots | | |

**Notes:**

1. Any empty DIMM slot must be populated with a DIMM blank to maintain proper cooling airflow.

## Memory configurations and mixing rules

- **Golden Rule:** Memory on every CPU socket shall be configured identically.
- For full details on supported memory configurations, count rules, population rules and mixing rules see the **Intel M8 Memory guide**.

## STEP 7 SELECT DRIVE CONTROLLERS

**NOTE:** There is no raid controller support for this Server

## STEP 8 SELECT DRIVES (REQUIRED)

The standard drive features are:

- E3.S 1T NVMe Drives
- Hot-pluggable
- Drives come mounted in sleds

### Select Drives

The available drives listed *Table 11*

**CAUTION:** Cisco uses solid state drives (SSDs) from a number of vendors. All solid state drives (SSDs) are subject to physical write limits and have varying maximum usage limitation specifications set by the manufacturer. Cisco will not replace any solid state drives (SSDs) that have exceeded any maximum usage specifications set by Cisco or the manufacturer, as determined solely by Cisco.

**Table 11 Available Drives**

| Product ID (PID) | PID Description | Drive Type | Capacity |
|---|---|---|---|
| **Capacity Drive** | | | |
| UCS-NVE115T3K1V | 15.3TB E3.S1T KCD8XPJE HgPerf MedEnd Gen5 1X NVMe (SIE SCEF) | NVMe | 15.3 TB |
| UCS-NVE17T6K1V | 7.6TB E3.S1T KCD8XPJE HgPerf MedEnd Gen5 1X NVMe (SIE SCEF) | NVMe | 7.6 TB |
| UCS-NVE13T8K1V | 3.8TB E3.S1T KCD8XPJE HgPerf MedEnd Gen5 1X NVMe (SIE SCEF) | NVMe | 3.8 TB |
| UCS-NVE11T9K1V | 1.9TB E3.S1T KCD8XPJE HgPerf MedEnd Gen5 1X NVMe (SIE SCEF) | NVMe | 1.9 TB |
| **Boot Drive** | | | |
| UCS-M2-480G | 480GB M.2 SATA SSD | SATA | 480GB |
| UCS-M2-960G-D | 960GB M.2 SATA Micron G2 SSD | SATA | 960GB |
| UCS-M2480OA1V | 480GB M.2 Boot Solidigm S4520 SATA 1X SSD | SATA | 480GB |
| **M.2 Raid controller (Internal)** | | | |
| UCS-M2-HWRAID2 | Cisco Boot optimized M.2 Raid controller for SATA drives | | |

### Approved Configurations

- Two to twenty four capacity drives

This table details the maximum number of front capacity drives that can be configured based on the selected E3.S Cable Option and the quantity of CPUs.

**Table 12 Front capacity drives**

| E3.S Cable Option PID | Description | Required CPU Quantity | Maximum Front Capacity Drives Allowed |
|---|---|---|---|
| UCS-240M8E3-32X2 | C240M8 E3.S 32 drives (x2 lanes) with riser 1, 2 & 3 | 2 | 24 (Slots 1-24) |

- Two boot drives with M.2 Raid controller

**NOTE:**

- Dual M.2 SATA SSD with the HW RAID controller is the only supported boot configuration for this solution.
- It is recommended that M.2 SATA SSDs be used as boot-only devices.
- Two identical M.2 SATA SSDs for the boot optimized RAID controller
- You cannot mix M.2 SATA SSD capacities.
- The SATA M.2 drives can boot in UEFI mode only. Legacy boot mode is not supported.
- CIMC is supported for configuring of volumes and monitoring of the controller and installed SATA M.2 drives

# STEP 9 SELECT OPTION CARD(s) (OPTIONAL)

For up-to-date server compatibility, please check the Hardware and Software compatibility list (HCL) at https://ucshcltool.cloudapps.cisco.com/public/.

The standard PCIe card offerings are:

- Modular LAN on Motherboard (mLOM)
- Open Compute Project (OCP) 3.0
- Virtual Interface Cards (VICs)
- Network Interface Cards (NICs)

### Select Option Cards

**NOTE:**

- If a double-wide (DW) GPU is selected in Riser 1 Slot 2, it blocks the use of Riser 1 Slot 3; similarly, if a DW GPU is selected in Riser 2 Slot 5, it blocks Riser 2 Slot 6, preventing simultaneous selection of these adjacent PCIe slots
- Refer to *Cisco UCS C240 M8 Installation Guide* more info

The available option cards are listed in *Table 13*

**Table 13 Available PCIe Option Cards**

| Product ID (PID) | PID Description | Location | Card Size[1] |
|---|---|---|---|
| **Modular LAN on Motherboard (mLOM)[2]** | | | |
| UCSC-M-V5Q50GV2-D | Cisco VIC 15427 4x 10/25/50G mLOM C-Series w/Secure Boot | mLOM | HHHL, SS |
| UCSC-M-V5D200GV2D | Cisco VIC 15237 2x 40/100/200G mLOM C-Series w/Secure Boot | mLOM | HHHL, SS |
| **Open Compute Project (OCP)[3]** | | | |
| UCSC-O-N6CD25GFO | NVIDIA OEM MCX631432AC-ADAB CX6Lx 2x25G SFP28 x8 OCP NIC | OCP | SFF |
| UCSC-O-N6CD100GFO | NVIDIA OEM MCX623436AC-CDAB CX6Dx 2x100G QSFP56 x16 OCP NIC | OCP | SFF |
| **Virtual Interface Cards (VICs)[2]** | | | |
| UCSC-P-V5Q50G-D | Cisco VIC 15425 4x 10/25/50G PCIe C-Series w/Secure Boot | Riser 1 or 3 | HHHL, SS |
| UCSC-P-V5D200G-D | Cisco VIC 15235 2x 40/100/200G PCIe C-Series w/Secure Boot | Riser 1 or 3 | HHHL, SS |
| **Network Interface Cards (NICs)** | | | |
| **1GbE NICs** | | | |
| UCSC-P-IQ1GC | Cisco-Intel I710-T4L 4x1GBASE-T NIC | Riser 1, 2, or 3 | HHHL, SS |
| **10GbE NICs** | | | |
| UCSC-P-ID10GC-D | Cisco-Intel X710T2LG 2x10GBE RJ45 PCIe NIC | Riser 1, 2, or 3 | HHHL, SS |

**Table 13 Available PCIe Option Cards** *(continued)*

| Product ID (PID) | PID Description | Location | Card Size[1] |
|---|---|---|---|
| UCSC-P-IQ10GC-D | Cisco-Intel X710T4LG 4x10GBE RJ45 PCIe NIC | Riser 1, 2, or 3 | HHHL, SS |
| **25GbE NICs** | | | |
| UCSC-P-I8D25GF-D | Cisco-Intel E810XXVDA2 2x25/10GBE SFP28 PCIe NIC | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-P-N6D25GFO | NVIDIA OEM MCX631102AS-ADAT CX6Lx 2x25GbE SFP28 x8 PCIe NIC | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-P-I8Q25GF-D | Cisco-Intel E810XXVDA4L 4x25/10 GbE SFP28 PCIe NIC | Riser 3 | FHHL, SS |
| **100GbE NICs** | | | |
| UCSC-P-M6CD100GFO | NVIDIA OEM MCX623106AC-CDAT, 2x100 GbE QSFP56 PCIe Crypto | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-P-M6DD100GFO | NVIDIA OEM MCX623106AS-CDAT, 2x100 GbE QSFP56 PCIe No Crypto | Riser 1, 2, or 3 | HHHL, SS |
| UCSC-P-I8D100GF-D | Cisco-Intel E810CQDA2 2x100 GbE QSFP28 PCIe NIC | Riser 1, 2, or 3 | HHHL, SS |
| **200GbE NICs** | | | |
| UCSC-P-N3220L | Nvidia OEM BlueField-3 B3220L SuperNIC 2x200G | Riser 1, 2, or 3 | FHHL, SS |
| **Accessories/spare included with PCI Card.**<br>■ UCSC-OCP3-KIT-D is included along with the selection Open Compute Project (OCP) card | | | |

**Notes:**

1. HHHL = half-height, half-length; FHHL = full-height, half-length; SS = single-slot; DS = double-slot. SFF = small form factor.
2. 50G speed on the 4-port and 200G speed on the 2-port are only supported on standalone servers with supported cables. Please refer to the **VIC 15000 series datasheet** for supported switches and cables.
3. For installation in the mLOM slot, you can order either an mLOM VIC, or the OCP NIC - but not both. If ordering the OCP NIC, the OCP Mechanical Kit (UCSC-OCP3-KIT) must also be installed in order to mount OCP NIC in the mLOM slot.
4. This Virtual Interface Cards incorporate VIC Secure Boot technology.

### Caveats

- For 1-CPU systems:
  - All the PCIe slots on riser 1A and 1C are supported for the PCIe Cards.
  - Riser 2 and 3 are not supported in 1-CPU system.
  - Only a single plug-in PCIe VIC card may be installed on a 1-CPU system, and it must be installed in slots 1 or 2 of riser 1A or slot 1 of riser 1C.
  - You can order an mLOM VIC card to be installed in the mLOM/OCP 3.0 slot internal to the chassis and thus have two VIC cards in operation at the same time. If you order a double-width GPU, it must be installed in slot 2; then a PCIe VIC can be installed in slot 1. See the *Table 13 on page 23* for the selection of plug-in and mLOM/OCP 3.0 VIC cards.
- For 2-CPU systems:
  - All the PCIe slots on riser 1, 2, and 3 are supported for the PCIe Cards.
  - You can order an mLOM VIC card to be installed in the mLOM slot internal to the chassis.You can also have up to two PCIe VICs.
    - If Riser 1A and 2A are selected, two PCIe VIC can be installed in slot 2 of Riser 1A and slot 5 of Riser 2A. If GPUs are installed in slot 2 of riser 1A or slot 5 of riser 2A, the NCSI capability automatically switches over to slot 1 of riser 1A or slot 4 of Riser 2A. Therefore, Cisco PCIe VICs can be installed in slot 1 of Riser 1A and slot 4 of Riser 2A if GPUs are installed in slots 2 of Riser 1A and slot 5 of Riser 2A.
    - If Riser 1C and 2C are selected, two PCIe VIC and be installed in slot 1 of Riser 1C and slot 4 of Riser 2C.
    - Maximum 1 PCIe VIC per riser

  See *Table 14 on page 27* for the selection of plug-in and mLOM VIC cards.

  - The server supports up to two PCIe Cisco VICs plus an MLOM VIC. However, single wire management is supported on only one VIC at a time. If multiple VICs are installed on a server, only one slot has NCSI enabled at a time and for single wire management, priority goes to the MLOM slot, then slot 2 of riser 1A/slot 1 of riser 1C, then slot 5 of riser 2A/slot 4 of riser 2C for NCSI management traffic. When multiple cards are installed, connect the single wire management cables in the priority order mentioned above.
    - For installation in the mLOM slot, you can order either an mLOM VIC, or the OCP NIC - but not both. If ordering the OCP NIC, the OCP Mechanical Kit (UCSC-OCP3-KIT) must also be installed in order to mount OCP NIC in the mLOM slot.

**NOTE:**

- UCSM managed servers are discoverable only if a PCIe VIC is installed or a VIC is installed in the MLOM slot.
- Select Cisco UCS Virtual Interface Cards incorporate VIC Secure Boot technology to ensure the integrity of the VIC hardware and firmware upon server boot. VIC Secure Boot is independent of server-level secure boot from Cisco, but both technologies contribute to the Cisco trust model ensuring customers' equipment is genuine and running validated firmware.
- To help ensure that your operating system is compatible with the card you have selected, or to see additional cards that have been qualified to work with the UCS C240 M8 server, but are not sold on the Cisco price list, check the **Hardware Compatibility List** link.

## ORDER OPTIONAL PCIe OPTION CARD ACCESSORIES

- At the time of first launch, the 3rd Party Ethernet adapters were tested for interoperability with an initial selection of Optical Modules and Cables. Please check the Product Briefs for this initial list of interoperable optics and cables at https://www.cisco.com/c/en/us/products/servers-unified-computing/third-party-adapters-listing.html.
- For list of supported optics and cables for VIC 15428 and VIC 15238, refer to the VIC 15000 series data sheet at https://www.cisco.com/c/en/us/products/collateral/interfaces-modules/unified-computing-system-adapters/ucs-vic-15000-series-ds.html
- Cisco Transceiver Module Group (TMG) conducts tests with Cisco optics and cables and publishes the results in the TMG Compatibility Matrix. The latest compatibility with optical modules and DACs can be found at https://tmgmatrix.cisco.com/
- Refer to the these links for additional connectivity options.

| **Intel:** |
| --- |
| **Product Guide** |
| **Speed White Paper** |

# STEP 10 ORDER GPU CARDS (OPTIONAL)

## Select GPU Options

The available GPU PCIe options and their riser slot compatibilities are listed in *Table 14*.

**CAUTION:**

- With multiple GPU>75W installed, normal operating temperature is 30º C [86º F], lowered to 25º C [77º F], with a fan fault.
- When a GPU>75W is installed, CPUs with TDP greater than 330W are not supported

**NOTE:**

- GPUs cannot be mixed. Different types of GPUs cannot be mixed within the same server configuration.
- All GPU cards must be procured from Cisco as there is a unique SBIOS ID required by CIMC and UCSM
- If a GPU with TDP equal or greater than 75W is ordered, all the 3 risers are required, and GPU airblocker will be installed in the middle slot of any empty riser in the system.
- If GPUs are installed in slot 2 of riser 1A or slot 5 of riser 2A, the NCSI capability automatically switches over to slot 1 of riser 1A or slot 4 of Riser 2A. Therefore, Cisco PCIe VICs can be installed in slots 1 and 4 on riser 1A and 2A, if GPUs are installed in slots 2 and 5. If you order multiple GPUs, they must be installed as shown in *Table 14 on page 27*.
- If a double wide GPU is selected, the UCSC-GPUAD-240M8 GPU Air Duct is a mandatory selection

**Table 14 Available PCIe GPU Cards**

| GPU Product ID (PID) | PID Description | Card Size | Max GPU Per Node | Riser Slot Compatibility | | | |
|---|---|---|---|---|---|---|---|
| | | | | Riser 1A/1C | Riser 2A/2C | Riser 3A/3C[1] | Riser 1B/3B |
| UCSC-GPU-H100-NVL | NVIDIA H100 NVL, 400W, 94GB, 2-slot FHFL GPU | double-wide | 3 | slot 2 | slot 5 | slot 7 (3C Only) | n/a |
| UCSC-GPU-A16-D | NVIDIA A16 PCIE 250W 4X16GB | double-wide | 3 | slot 2 | slot 5 | slot 7 (3C Only) | n/a |
| UCSC-GPU-L40S | NVIDIA L40S: 350W, 48GB, 2-slot FHFL GPU | double-wide | 3 | slot 2 | slot 5 | slot 7 (3C Only) | n/a |
| UCSC-GPU-L4[2] | NVIDIA L4:70W, 24GB, 1-slot HHHL GPU | Single-wide | 8 | All slots | All slots | slot 7 (3C Only) | n/a |

**Table 14 Available PCIe GPU Cards**

| GPU Product ID (PID) | PID Description | Card Size | Max GPU Per Node | Riser Slot Compatibility |
|---|---|---|---|---|
| **Accessories/spare included with GPU**:<br>■ When a GPU ready configuration is ordered, the server comes with low-profile heatsinks PID (UCSC-HSLP-C220M8), and special airblocker PID (UCSC-RISAB-24XM7) for GPUs.<br>■ Air duct (UCSC-GPUAD-C240M8) is **not** auto-included with the double wide GPUs, however if a Double Wide GPU is selected, the UCSC-GPUAD-240M8 GPU Air Duct is a mandatory selection. For GPU UCSC-GPU-L4 **air duct is not** required.<br>■ CBL-G5GPU-C240M7 power cable included with the selection of L40S and H100-NVL GPUs.<br>**NOTE:** If you are adding GPUs later to non GPU ready configuration, you need to order the GPU kit (UCSC-GPUKIT-240M8=) along with GPUs, this GPU kit includes 2x low profile heatsinks, 1x GPU airduct, 2x thermal paste and 2x GPU airblockers. | | | | |

**Notes:**

1. The server supports one full-height, full-length, double-wide GPU (PCIe slot 7 only) in Riser 3C.
2. L4 is supported on all slots in PCIe risers. The maximum would be 8 when you have riser 1A+2A+3A and populate all 8 slots with L4

## STEP 11 ORDER POWER SUPPLY (REQUIRED)

Power supplies share a common electrical and physical design that allows for hot-plug and tool-less installation into M8 C-series servers. Each power supply is certified for high-efficiency operation and offers multiple power output options. This allows users to “right-size” based on server configuration, which improves power efficiency, lowers overall energy costs and avoids stranded capacity in the datacenter.

Use the power calculator at the following link to determine the needed power based on the options chosen (CPUs, drives, memory, and so on):

**http://ucspowercalc.cisco.com**

**WARNING:**

- Starting 1st January 2024, only Titanium rated PSUs are allowed to be shipped to European Union (EU), European Economic Area (EEA), United Kingdom (UK), Switzerland and other countries that adopted Lot 9 Regulation.
- DC PSUs are not impacted by Lot 9 Regulation and are EU/UK Lot 9 compliant

**Table 15 Power Supply**

| Product ID (PID) | PID Description |
|---|---|
| **PSU (Input High Line 210VAC)** | |
| UCSC-PSU1-1200W | 1200W Titanium power supply for C-Series Servers |
| UCSC-PSUV21050D | Cisco UCS 1050W -48V DC Power Supply for Rack Server |
| UCSC-PSU1-1600W | UCS 1600W AC PSU Platinum (Not EU/UK Lot 9 Compliant) |
| UCSC-PSU1-2300W | Cisco UCS 2300W AC Power Supply for Rack Servers Titanium |
| **PSU (Input Low Line 110VAC)** | |
| UCSC-PSU1-1200W | 1200W Titanium power supply for C-Series Servers **Titanium** |
| UCSC-PSU1-2300W | 2300W Power supply for C-series servers **Titanium** |

**NOTE:**

- In a server with two power supplies, both power supplies must be identical.
- Refer to **Power Specifications, page 39** section for the full details on the each power supply.

## STEP 12 SELECT INPUT POWER CORD(s) (REQUIRED)

Using *Table 16* and *Table 17*, select the appropriate AC power cords. If you select the option NO-POWER-CORD, no power cord is shipped with the server.

**NOTE:** *Table 16* lists the power cords for servers that use power supplies less than 2300 W. *Table 17* lists the power cords for servers that use 2300 W power supplies. Note that the power cords for 2300 W power supplies use a C19 connector so they only fit the 2300 W power supply connector.

**Table 16 Available Power Cords (for server PSUs less than 2300 W)**

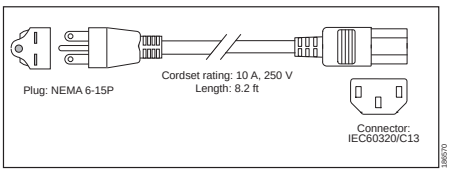
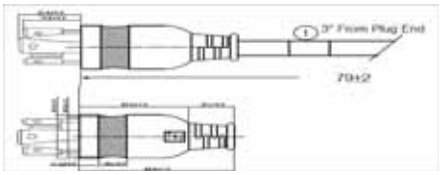
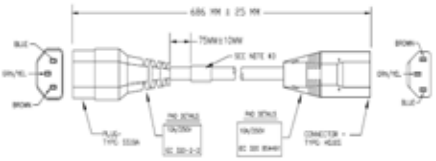
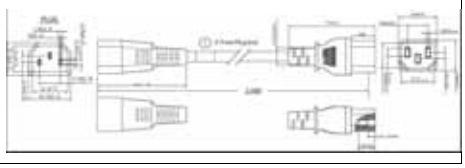
| Product ID (PID) | PID Description | Images |
|---|---|---|
| NO-POWER-CORD | ECO friendly green option, no power cable will be shipped | |
| CAB-48DC-40A-8AWG | C-Series -48VDC PSU Power Cord, 3.5M, 3 Wire, 8AWG, 40A |  |
| CAB-N5K6A-NA | Power Cord, 200/240V 6A, North America |  |
| CAB-AC-L620-C13 | AC Power Cord, NEMA L6-20 - C13, 2M/6.5ft |  |
| CAB-C13-CBN | CABASY,WIRE,JUMPER CORD, 27" L, C13/C14, 10A/250V |  |
| CAB-C13-C14-2M | CABASY,WIRE,JUMPER CORD, PWR, 2 Meter, C13/C14,10A/250V |  |

**Table 16 Available Power Cords (for server PSUs less than 2300 W)**

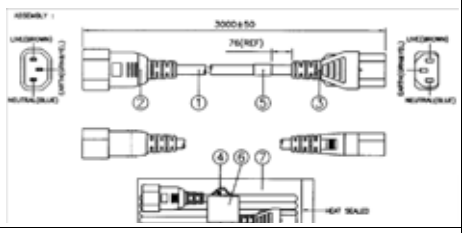
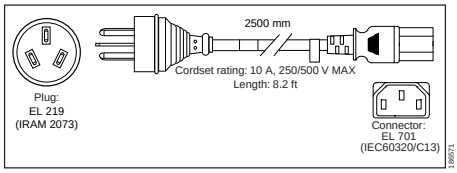
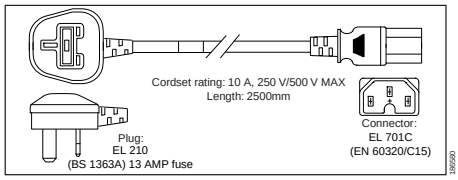
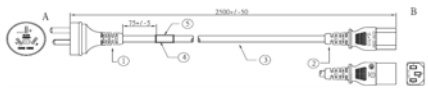
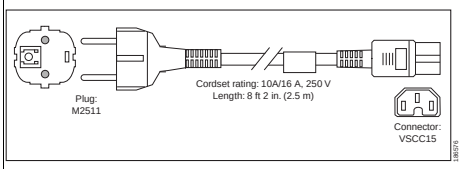
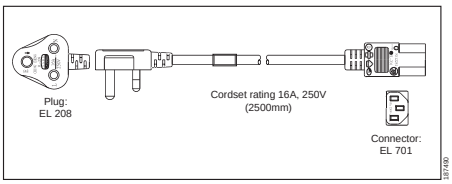
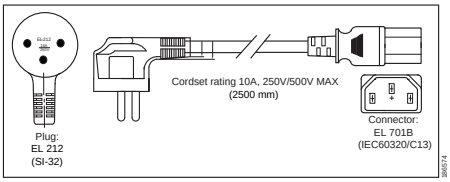
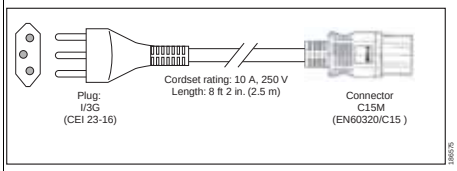
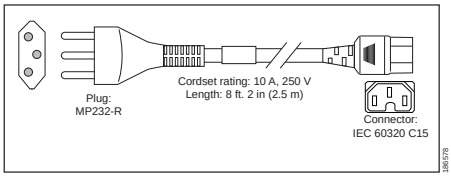
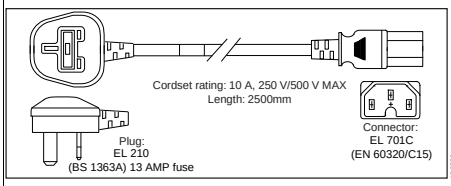
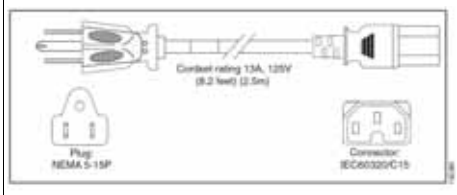
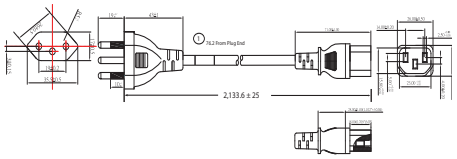
| Product ID (PID) | PID Description | Images |
|---|---|---|
| CAB-C13-C14-AC | CORD,PWR,JMP,IEC60320/C14,IEC60320/C13, 3.0M |  |
| CAB-250V-10A-AR | Power Cord, 250V, 10A, Argentina |  |
| CAB-9K10A-AU | Power Cord, 250VAC 10A 3112 Plug, Australia |  |
| CAB-250V-10A-CN | AC Power Cord - 250V, 10A - PRC |  |
| CAB-9K10A-EU | Power Cord, 250VAC 10A CEE 7/7 Plug, EU |  |
| CAB-250V-10A-ID | Power Cord, 250V, 10A, India |  |
| CAB-C13-C14-3M-IN | Power Cord Jumper, C13-C14 Connectors, 3 Meter Length, India | Image not available |
| CAB-C13-C14-IN | Power Cord Jumper,C13-C14 Connectors,1.4 Meter Length, India | Image not available |
| CAB-250V-10A-IS | Power Cord, SFS, 250V, 10A, Israel |  |

**Table 16 Available Power Cords (for server PSUs less than 2300 W)**

| Product ID (PID) | PID Description | Images |
|---|---|---|
| CAB-9K10A-IT | Power Cord, 250VAC 10A CEI 23-16/VII Plug, Italy |  |
| CAB-9K10A-SW | Power Cord, 250VAC 10A MP232 Plug, Switzerland |  |
| CAB-9K10A-UK | Power Cord, 250VAC 10A BS1363 Plug (13 A fuse), UK |  |
| CAB-9K12A-NA[1] | Power Cord, 125VAC 13A NEMA 5-15 Plug, North America |  |
| CAB-250V-10A-BR | Power Cord - 250V, 10A - Brazil |  |
| CAB-C13-C14-2M-JP | Power Cord C13-C14, 2M/6.5ft Japan PSE mark | Image not available |
| CAB-9K10A-KOR[1] | Power Cord, 125VAC 13A KSC8305 Plug, Korea | Image not available |
| CAB-ACTW | AC Power Cord (Taiwan), C13, EL 302, 2.3M | Image not available |
| CAB-JPN-3PIN | Japan, 90-125VAC 12A NEMA 5-15 Plug, 2.4m | Image not available |
| CAB-48DC-40A-INT | C-Series -48VDC PSU PWR Cord, 3.5M, 3 Wire, 8AWG, 40A (INT) | Image not available |
| CAB-48DC-40A-ASD | C-Series -48VDC PSU PWR Cord, 3.5M, 3Wire, 8AWG, 40A (AS/NZ) | Image not available |

**Notes:**

1. This power cord is rated to 125V and only supported for PSU rated at 1050W or less

**Table 17 Available Power Cords (for servers with 2300 W PSUs)**

| Product ID (PID) | PID Description | Images |
|---|---|---|
| CAB-C19-CBN | Cabinet Jumper Power Cord, 250 VAC 16A, C20-C19 Connectors | Not applicable |
| CAB-S132-C19-ISRL | S132 to IEC-C19 14ft Israeli | Image not available |
| CAB-IR2073-C19-AR | IRSM 2073 to IEC-C19 14ft Argen | Image not available |
| CAB-BS1363-C19-UK | BS-1363 to IEC-C19 14ft UK | Image not available |
| CAB-SABS-C19-IND | SABS 164-1 to IEC-C19 India | Image not available |
| CAB-C2316-C19-IT | CEI 23-16 to IEC-C19 14ft Italy | Image not available |
| CAB-US515P-C19-US | NEMA 5-15 to IEC-C19 13ft US | Image not available |
| CAB-US520-C19-US | NEMA 5-20 to IEC-C19 14ft US | Image not available |
| CAB-US620P-C19-US | NEMA 6-20 to IEC-C19 13ft US | Image not available |
| NO-POWER-CORD | ECO friendly green option, no power cable will be shipped | Image not available |

## STEP 13 ORDER TOOL-LESS RAIL KIT (REQUIRED) AND REVERSIBLE CABLE MANAGEMENT ARM (OPTIONAL)

- Tool-less Rail Kit:

Select a tool-less rail kit (or no rail kit) from *Table 18*.

**NOTE:**

- Cisco recommends a minimum quantity of 1 Rail Kit
- If you plan to rackmount your server, you must order a tool-less rail kit.

**Table 18 Tool-less Rail Kit Options**

| Product ID (PID) | PID Description |
|---|---|
| UCSC-RAIL-M7 | Ball Bearing Rail Kit for M8 servers |
| UCSC-RAIL-NONE | No rail kit option |

- Optional Reversible Cable Management Arm:

The reversible cable management arm mounts on either the right or left slide rails at the rear of the server and is used for cable management. Select an Optional Reversible Cable Management Arm from *Table 19*.

**NOTE:** If you plan to rackmount your server, you must order a tool-less rail kit. The same rail kits and CMAs are used for M6 and M7 servers.

**Table 19 Cable Management Arm**

| Product ID (PID) | PID Description |
|---|---|
| UCSC-CMA-C240M7 | Reversible CMA for M8 ball bearing rail kit |

For more information about the tool-less rail kit and cable management arm, check the **Cisco C240 M8 Installation Guide.**

## STEP 14 ORDER SECURITY DEVICES (REQUIRED)

A Trusted Platform Module (TPM) is a computer chip (microcontroller) that can securely store artifacts used to authenticate the platform (server). These artifacts can include passwords, certificates, or encryption keys. A TPM can also be used to store platform measurements that help ensure that the platform remains trustworthy. Authentication (ensuring that the platform can prove that it is what it claims to be) and attestation (a process helping to prove that a platform is trustworthy and has not been breached) are necessary steps to ensure safer computing in all environments.

A chassis intrusion switch gives a notification of any unauthorized mechanical access into the server.

The security device ordering information is listed in *Table 20*

**NOTE:**

- The TPM module used in this system conforms to TPM 2.0, as defined by the Trusted Computing Group (TCG). It is also SPI-based.
- TPM installation is supported after-factory. However, a TPM installs with a one-way screw and cannot be replaced, upgraded, or moved to another server. If a server with a TPM is returned, the replacement server must be ordered with a new TPM.

**Table 20 Security Devices**

| Product ID (PID) | PID Description |
|---|---|
| UCSC-TPM-002D | TPM 2.0 TCG FIPS140-2 CC+ Cert M7/M8 Intel MSW2022 Compliant |
| UCSC-TPM-OPT-OUT | OPT OUT, TPM 2.0, TCG, FIPS140-2, CC EAL4+ Certified[1] |
| UCSC-INT-SW02 | M8 Chassis Intrusion Switch |

**Notes:**

1. Please note that Microsoft certification requires a TPM 2.0 for bare-metal or guest VM deployments. Opt-out of the TPM 2.0 voids the Microsoft certification

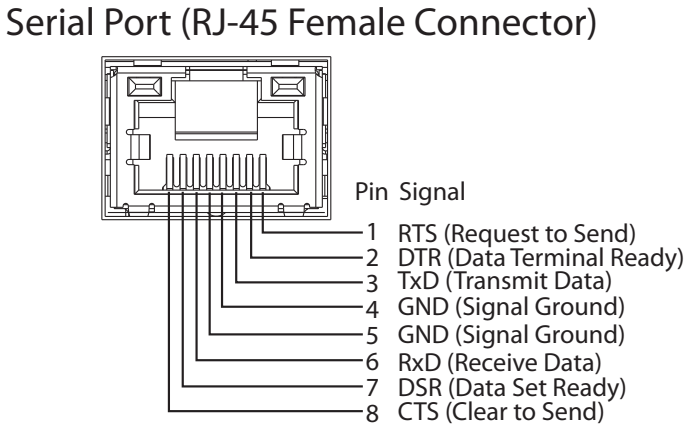
# SUPPLEMENTAL MATERIAL

## PCIe Port Assignment

| Slots | CPU1 | CPU2 |
|---|---|---|
| Riser 1 A | Slot 1: Gen5 x8<br>Slot 2: Gen5 x16<br>Slot 3: Gen5 x8 | |
| Riser 1 C | Slot 1: Gen5 x16<br>Slot 2: Gen5 x16 | |
| Riser 2 A | | Slot 4: Gen5 x8<br>Slot 5: Gen5 x16<br>Slot 6: Gen5 x8 |
| Riser 2 C | | Slot 4: Gen5 x16<br>Slot 5: Gen5 x16 |
| Riser 3 A | | Slot 7: Gen5 x8<br>Slot 8: Gen5 x8 |
| Riser 3 C | | Slot 7: Gen5 x16 |
| mLOM / OCP | Gen4 x16 | |
| M.2 Boot RAID | Gen3 x2 | |

## Serial Port Details

**Figure 5 Serial Port (Female RJ-45 Connector) Pinout**



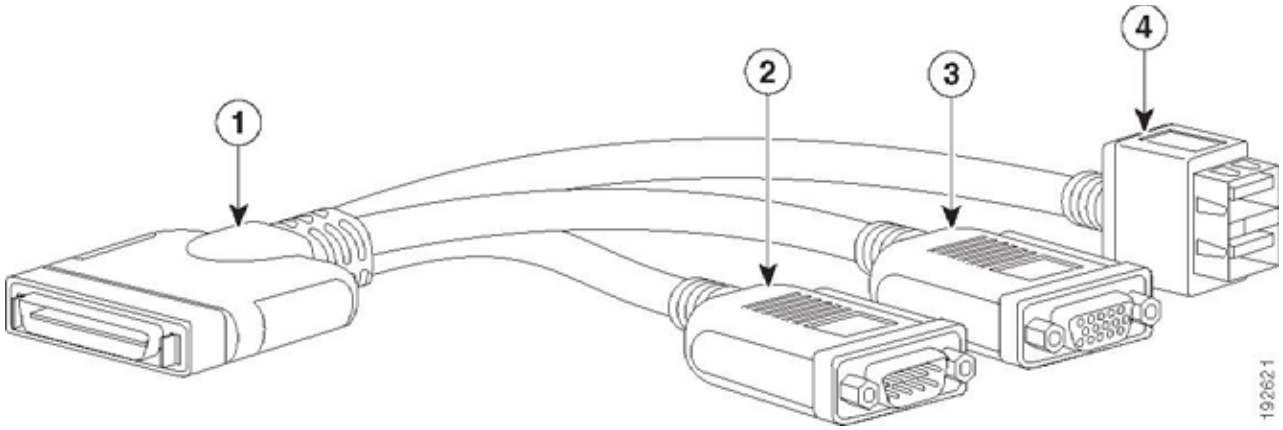
## KVM Cable

The KVM cable provides a connection into the server, providing a DB9 serial connector, a VGA connector for a monitor, and dual USB ports for a keyboard and mouse. With this cable, you can create a direct connection to the operating system and the BIOS running on the server.

**Table 21 KVM Cable**

| Product ID (PID) | PID Description |
|---|---|
| N20-BKVM | KVM cable for UCS Server console port |

**Figure 6 KVM Cable**




| | | | |
|---|---|---|---|
| **1** | Connector (to server front panel) | **3** | VGA connector (for a monitor) |
| **2** | DB-9 serial connector | **4** | Two-port USB connector (for a mouse and keyboard) |

# TECHNICAL SPECIFICATIONS

## Dimensions and Weight

**Table 22 Dimensions and Weight**

| Parameter | Value |
|---|---|
| Height | 3.42 in. (8.7 cm) |
| Width (including slam latches) | 16.9 in.(42.9 cm) |
| Depth | 30 in. (76.2 cm) |
| Weight | |
| 0*2.5" HDDs, 0*CPU(w/o HS), 0*DIMM, 1*2300W PSU, 2*Raid tray, mLOM, riser cage 1(w/o PCIe), riser cage 2(w/o PCIe), riser cage 3(w/o PCIe) | 19.47 kg = 42.92 lb |
| 0*2.5" HDDs, 0*CPU(w/o HS), 0*DIMM, 1*2300W PSU, 2*Raid tray, mLOM, riser cage 1(w/o PCIe), riser cage 2(w/o PCIe), riser cage 3(w/o PCIe), **Rail kit** | 23.23 kg = 51.21 lb |
| 1*2.5" HDDs, 1*CPU(w/HS), 1*DIMM, 1*2300W PSU, 2*Raid tray, mLOM, riser cage 1(w/o PCIe), riser cage 2(w/o PCIe), riser cage 3(w/o PCIe) | 20.31 kg = 44.78 lb |
| 1*2.5" HDDs, 1*CPU(w/HS), 1*DIMM, 1*2300W PSU, 2*Raid tray, mLOM, riser cage 1(w/o PCIe), riser cage 2(w/o PCIe), riser cage 3(w/o PCIe), **Rail kit** | 24.07 kg = 53.07 lb |
| 24*2.5" HDDs, 2*CPU(w/HS), 32*DIMM, 2*2300W PSU, 2*Raid tray, mLOM, riser cage 1(w/o PCIe), riser cage 2(w/o PCIe), riser cage 3(w/o PCIe) | 28.96 kg = 63.85 lb |
| 24*2.5" HDDs, 2*CPU(w/HS), 32*DIMM, 2*2300W PSU, 2*Raid tray, mLOM, riser cage 1(w/o PCIe), riser cage 2(w/o PCIe), riser cage 3(w/o PCIe), **Rail kit** | 32.72 kg = 72.14 lb |

## Power Specifications

The server is available with the following types of power supplies:

- 1050W (DC) power supply (see *Table 23*)
- 1200 W (AC) power supply (see *Table 24*)
- 1600 W (AC) power supply (see *Table 25*)
- 2300 W (AC) power supply (see *Table 26*)

**Table 23 1050W (DC) Power Supply Specifications**

| Parameter | Specification |
|---|---|
| Input Connector | Molex 42820 |
| Input Voltage Range (V rms) | -48 |
| Maximum Allowable Input Voltage Range (V rms) | -40 to -72 |
| Frequency Range (Hz) | NA |
| Maximum Allowable Frequency Range (Hz) | NA |
| Maximum Rated Output (W) | 1050 |
| Maximum Rated Standby Output (W) | 36 |
| Nominal Input Voltage (V rms) | -48 |
| Nominal Input Current (A rms) | 24 |
| Maximum Input at Nominal Input Voltage (W) | 1154 |
| Maximum Input at Nominal Input Voltage (VA) | 1154 |
| Minimum Rated Efficiency (%)[1] | 91 |
| Minimum Rated Power Factor[1] | NA |
| Maximum Inrush Current (A peak) | 15 |
| Maximum Inrush Current (ms) | 0.2 |
| Minimum Ride-Through Time (ms)[2] | 5 |

**Notes:**

1. This is the minimum rating required to achieve 80 PLUS Platinum certification, see test reports published at http://www.80plus.org/ for certified values
2. Time output voltage remains within regulation limits at 100% load, during input voltage dropout

**Table 24 1200 W (AC) Power Supply Specifications**

| Parameter | Specification | | | |
|---|---|---|---|---|
| Input Connector | IEC320 C14 | | | |
| Input Voltage Range (Vrms) | 100 to 240 | | | |
| Maximum Allowable Input Voltage Range (Vrms) | 90 to 264 | | | |
| Frequency Range (Hz) | 50 to 60 | | | |
| Maximum Allowable Frequency Range (Hz) | 47 to 63 | | | |
| Maximum Rated Output (W)[1] | 1100 | | 1200 | |
| Maximum Rated Standby Output (W) | 48 | | | |
| Nominal Input Voltage (Vrms) | 100 | 120 | 208 | 230 |
| Nominal Input Current (Arms) | 12.97 | 10.62 | 6.47 | 5.84 |
| Maximum Input at Nominal Input Voltage (W) | 1300 | 1264 | 1343 | 1340 |
| Maximum Input at Nominal Input Voltage (VA) | 1300 | 1266 | 1345 | 1342 |
| Minimum Rated Efficiency (%)[2] | 90 | 90 | 91 | 91 |
| Minimum Rated Power Factor[2] | 0.97 | 0.97 | 0.97 | 0.97 |
| Maximum Inrush Current (A peak) | 20 | | | |
| Maximum Inrush Current (ms) | 0.2 | | | |
| Minimum Ride-Through Time (ms)[3] | 12 | | | |

**Notes:**

1. Maximum rated output is limited to 1100W when operating at low-line input voltage (100-127V)
2. This is the minimum rating required to achieve 80 PLUS Titanium certification, see test reports published at http://www.80plus.org/ for certified values
3. Time output voltage remains within regulation limits at 100% load, during input voltage dropout

**Table 25 1600 W (AC) Power Supply Specifications**

| Parameter | Specification | | | |
|---|---|---|---|---|
| Input Connector | IEC320 C14 | | | |
| Input Voltage Range (V rms) | 200 to 240 | | | |
| Maximum Allowable Input Voltage Range (V rms) | 180 to 264 | | | |
| Frequency Range (Hz) | 50 to 60 | | | |
| Maximum Allowable Frequency Range (Hz) | 47 to 63 | | | |
| Maximum Rated Output (W) | 1600 | | | |
| Maximum Rated Standby Output (W) | 36 | | | |
| Nominal Input Voltage (V rms) | 100 | 120 | 208 | 230 |
| Nominal Input Current (A rms) | NA | NA | 8.8 | 7.9 |
| Maximum Input at Nominal Input Voltage (W) | NA | NA | 1778 | 1758 |
| Maximum Input at Nominal Input Voltage (VA) | NA | NA | 1833 | 1813 |
| Minimum Rated Efficiency (%)[1] | NA | NA | 90 | 91 |
| Minimum Rated Power Factor[2] | NA | NA | 0.97 | 0.97 |
| Maximum Inrush Current (A peak) | 30 | | | |
| Maximum Inrush Current (ms) | 0.2 | | | |
| Minimum Ride-Through Time (ms)[2] | 12 | | | |

**Notes:**

1. This is the minimum rating required to achieve 80 PLUS Platinum certification, see test reports published at http://www.80plus.org/ for certified values
2. Time output voltage remains within regulation limits at 100% load, during input voltage dropout

**Table 26 2300 W (AC) Power Supply Specifications**

| Parameter | Specification | | | |
|---|---|---|---|---|
| Input Connector | IEC320 C20 | | | |
| Input Voltage Range (Vrms) | 100 to 240 | | | |
| Maximum Allowable Input Voltage Range (Vrms) | 90 to 264 | | | |
| Frequency Range (Hz) | 50 to 60 | | | |
| Maximum Allowable Frequency Range (Hz) | 47 to 63 | | | |
| Maximum Rated Output (W)[1] | 2300 | | | |
| Maximum Rated Standby Output (W) | 36 | | | |
| Nominal Input Voltage (Vrms) | 100 | 120 | 208 | 230 |
| Nominal Input Current (Arms) | 13 | 11 | 12 | 10.8 |
| Maximum Input at Nominal Input Voltage (W) | 1338 | 1330 | 2490 | 2480 |
| Maximum Input at Nominal Input Voltage (VA) | 1351 | 1343 | 2515 | 2505 |
| Minimum Rated Efficiency (%)[2] | 92 | 92 | 93 | 93 |
| Minimum Rated Power Factor[2] | 0.99 | 0.99 | 0.97 | 0.97 |
| Maximum Inrush Current (A peak) | 30 | | | |
| Maximum Inrush Current (ms) | 0.2 | | | |
| Minimum Ride-Through Time (ms)[3] | 12 | | | |

**Notes:**

1. Maximum rated output is limited to 1200W when operating at low-line input voltage (100-127V)
2. This is the minimum rating required to achieve 80 PLUS Titanium certification, see test reports published at http://www.80plus.org/ for certified values
3. Time output voltage remains within regulation limits at 100% load, during input voltage dropout

**NOTE:** For configuration-specific power specifications, use the Cisco UCS Power Calculator at this URL: **http://ucspowercalc.cisco.com**

.

## Compliance Requirements

The regulatory compliance requirements for servers are listed in *Table 27*.

**Table 27 UCS Regulatory Compliance Requirements**

| Parameter | Description |
|---|---|
| Regulatory Compliance | Products should comply with CE Markings per directives 2014/30/EU and 2014/35/EU |
| Safety | UL 60950-1/62368-1<br>CAN/CSA-C22.2 No. 60950-1/62368-1<br>IEC/EN 60950-1/62368-1<br>AS/NZS 62368.1<br>GB 4943.1-2022<br>CNS 15598-1:2020 |
| EMC - Emissions | 47CFR Part 15 (CFR 47) Class A<br>AS/NZS CISPR32 Class A<br>CISPR32 Class A<br>EN55032 Class A<br>ICES003 Class A<br>VCCI-CISPR32 Class A<br>EN61000-3-2<br>EN61000-3-3<br>KS C 9832 Class A<br>EN 300386 Class A |
| EMC - Immunity | EN55035<br>EN55024<br>CISPR24/35<br>EN300386<br>KS C 9835<br>IEC/EN61000-6-1 |