Spec Sheet

Cisco UCS C225 M8 SFF Rack Server

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https://www.cisco.com/c/en/us/products/servers-unified-computing/ucs-c-series-rack-servers/datasheet-listing.html

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OVERVIEW

The UCS C225 M8 SFF server extends the capabilities of Cisco's Unified Computing System portfolio in a 1U form factor, single-socket design, with the AMD EPYC™ CPUs.The Cisco UCS C225 M8 SFF server offers the following:

CPU:

- Single-socket 5th Gen. AMD EPYC™ CPUs with up to 160 cores per processor **or**
- Single-socket 4th Gen. AMD EPYC™ CPUs with up to 128 cores per processor

Memory:

- 12 x 128GB DDR5-6400 DIMMs, in a single-socket configuration with 5th Gen. AMD EPYC™ processors
- 12 x 128GB DDR5-5600 DIMMs, in a single-socket configuration with 4th Gen. AMD EPYC™ processors
- Up to 1.5 TB of capacity

The server provides one internal slot for one of the following:

- Cisco 24G Tri-mode RAID controller with cache backup to control SAS/SATA/NVMe drives

mLOM: The UCS C225 M8 SFF server has a single 1GBE management port. A modular LAN on motherboard (mLOM)/OCP 3.0 module provides up to two 100GBE ports. A connector on the front of the chassis provides KVM functionality.

The Cisco UCS C225 M8 server can be used standalone, or as part of the Cisco Unified Computing System, which unifies computing, networking, management, virtualization, and storage access into a single integrated architecture enabling end-to-end server visibility, management, and control in both bare metal and virtualized environments.

See *Figure 1 on page 4* for front and rear views of the UCS C225 M8 server.

Figure 1 Cisco UCS C225 M8 SFF Rack Server

Front View

Rear View (three half-height riser card version)

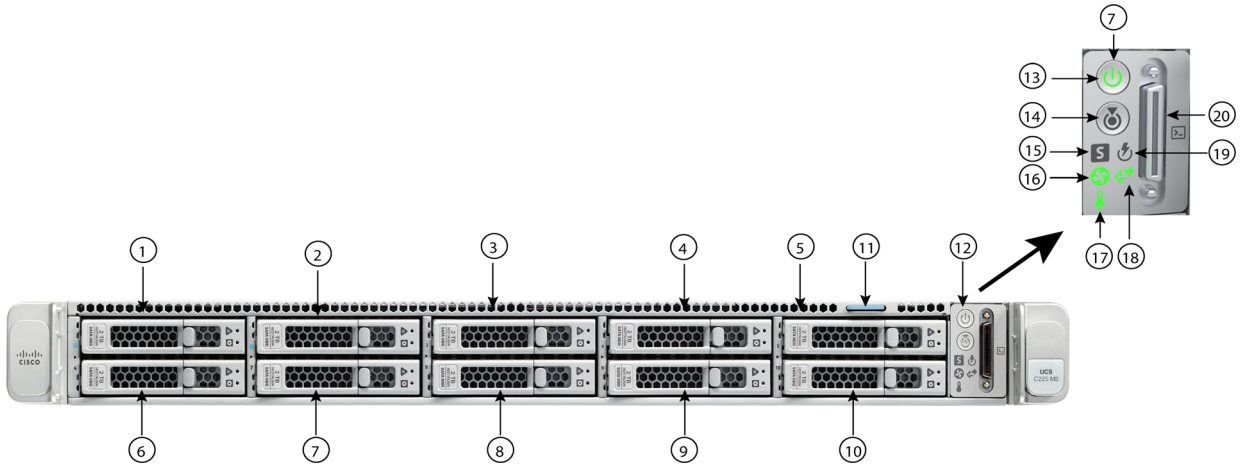
Rear View (two full-height riser card version - shown with riser blanks installed)

DETAILED VIEWS

Detailed Chassis Front View

Figure 2 shows the detailed front view of the Cisco UCS C225 M8 SFF Rack Server

Figure 2 Detailed Chassis Front View



1 - 10	Option 1 **UCSC-C225-M8S:** ■ Drive bays 1 – 10 support SAS/SATA/NVMe drives and drives bays 1-4 also support direct attach NVMe. Option 2 **UCSC-C225-M8N:** ■ Drive bays 1 – 10 support only NVMe PCIe drives	**16**	Fan status LED
11	Asset tag location	**17**	Temperature status LED
12	Control panel	**18**	Network link activity LED
13	Power button/power status LED	**19**	Power supply status LED
14	Unit Identification button/LED	**20**	KVM connector (used with KVM cable that provides two USB 2.0, one VGA, and one serial connector)
15	System status LED	**-**	-

Detailed Chassis Rear Views

Figure 3 shows the details of the rear panel for the UCS C225 M8 with one rear half-height PCIe riser.

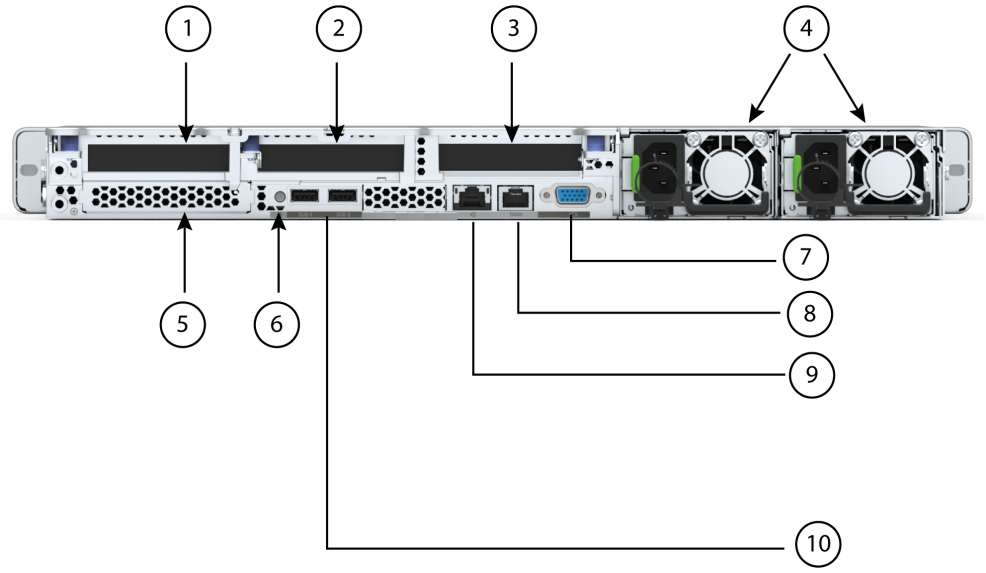
Figure 4 shows the details of the rear panel for the UCS C225 M8 with two rear full-height PCIe risers.

Three Half-Height Risers

NOTE:

- Gen4 and Gen5 risers cannot be mixed.

Figure 3 Chassis Rear View (three half-height, 3/4 length PCIe risers)

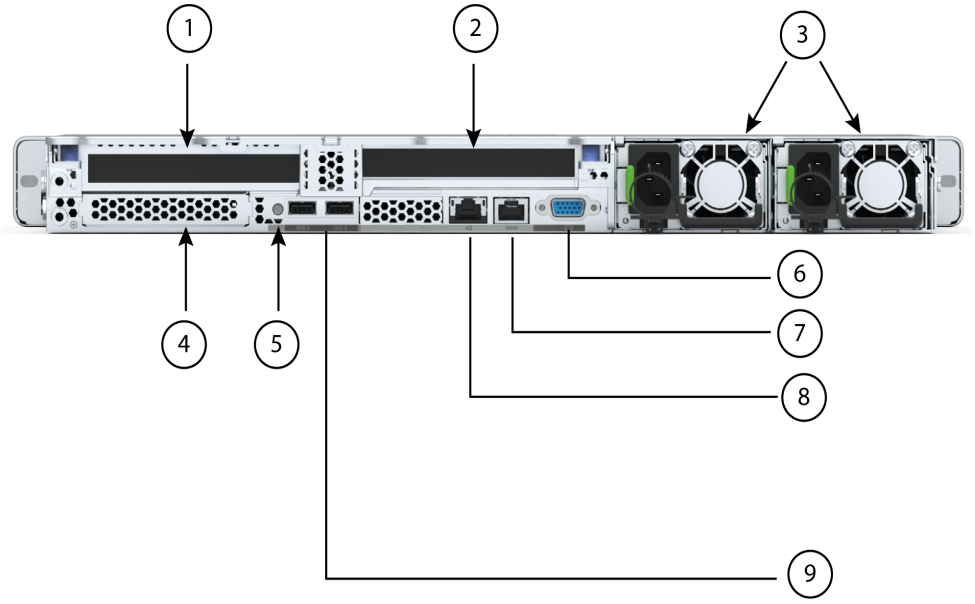


1	There are two half height riser 1 options: **Riser 1A PCIe Gen4** ■ Supports one PCIe slot (slot 1) ■ Slot 1 is half-height, 3/4 length, x16, NCSI, Single Wide GPU **Riser 1B PCIe Gen5** ■ Supports one PCIe slot (slot 1) ■ Slot 1 is half-height, 3/4 length, x16, NCSI, Single Wide GPU	**6**	System ID pushbutton/LED
2	There are two half height riser 2 options: **Riser 2A PCIe Gen4 x16** ■ Supports one PCIe slot (slot 2) ■ Slot 2 is half-height, 3/4 length, x16, Single Wide GPU **Riser 2B PCIe Gen5 x16** ■ Supports one PCIe slot (slot 2) ■ Slot 2 is half-height, 3/4 length, x16, Single Wide GPU	**7**	VGA display port (DB15 connector)

3	There is one half height riser 3 option: **Riser 3A PCIe Gen4 x16** ■ Supports one PCIe slot (slot 3) ■ Slot 3 is half-height, 3/4 length, x16, NCSI, Single Wide GPU	**8**	COM port (RJ45 connector)
4	Power supplies (two, redundant as 1+1)	**9**	1GBE dedicated Ethernet management port
5	Modular LAN on motherboard (mLOM)/OCP 3.0 slot	**10**	USB 3.0 ports (two)

Two Full-Height Risers

Figure 4 Chassis Rear View (two full-height, 3/4-length PCIe risers)



1	**Riser 1C PCIe Gen5** ■ Supports one PCIe slot (slot 1) ■ Slot 1 is full-height, 3/4 length, x16,NCSI, Single Wide GPU	**6**	VGA display port (DB15 connector)
2	**Riser 3C PCIe Gen5 x16** ■ Supports one PCIe slot (slot 3) ■ Slot 3 is Full-height, 3/4 length, x16, NCSI, Single Wide GPU	**7**	COM port (RJ45 connector)
3	Power supplies (two, redundant as 1+1)	**8**	1GBE dedicated Ethernet management port
4	Modular LAN on motherboard (mLOM)/OCP 3.0 slot	**9**	USB 3.0 ports (two)
5	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, disk drives, or amount of memory) are provided in CONFIGURING the SERVER, page 13.

Table 1 Capabilities and Features

Capability/Feature	Description
Chassis	One rack unit (1RU) chassis
CPU	■ One AMD EPYC 97x4, 9004 Series, and 9004 Series with 3D V-Cache™ Technology Processors **or** ■ One AMD EPYC™ 9005 Series Processors ■ Single-Socket Configuration
Memory	12 slots for registered DIMMs (RDIMMs)
Multi-bit Error Protection	This server supports multi-bit error protection.
Video	The Cisco Integrated Management Controller (CIMC) provides video using the Matrox G200e video/graphics controller: ■ Integrated 2D graphics core with hardware acceleration ■ Embedded DDR memory interface supports up to 512 MB of addressable memory (8 MB is allocated by default to video memory) ■ Supports display resolutions up to 1920 x 1200 16bpp @ 60Hz ■ High-speed integrated 24-bit RAMDAC ■ Single lane PCI-Express host interface running at Gen 1 speed
Power subsystem	Up to two of the following hot-swappable power supplies: ■ 1050 W (DC) ■ 1200 W (AC) ■ 1600 W (AC) ■ 2300 W (AC) One power supply is mandatory; one more can be added for 1 + 1 redundancy.
Expansion slots	■ Half-height riser slots (select up to three) • Riser 1A PCIe Gen4 x16 HH • Riser 1B PCIe Gen5 x16 HH • Riser 2A PCIe Gen4 x16 HH • Riser 2B PCIe Gen5 x16 HH • Riser 3A PCIe Gen4 x16 HH ■ Full-height riser slots (select up to two) • Riser 1C PCIe Gen5 x16 FH • Riser 3C PCIe Gen5 x16 FH

Table 1 Capabilities and Features *(continued)*

Capability/Feature	Description
Interfaces	■ Rear panel • One 1Gbase-T RJ-45 management port • One RS-232 serial port (RJ45 connector) • One DB15 VGA connector • Two USB 3.0 port connectors • One flexible modular LAN on motherboard (mLOM)/OCP 3.0 slot that can accommodate various interface cards ■ Front panel • One KVM console connector (supplies two USB 2.0 connectors, one VGA DB15 video connector, and one serial port (RS232) RJ45 connector)
Internal storage devices	**Drive storage:** Drives are installed into front-panel drive bays, which provide hot-swappable access for SAS/SATA or NVMe drives. The server is orderable in two different versions: ■ UCSC-C225-M8S (option 1): • Drive bays 1 – 10 support SAS/SATA/NVMe drives and drives bays 1,2, 3 and 4 also support direct attach NVMe. ■ UCSC-C225-M8N (option 2): • Up to 10 2.5-inch direct-attach NVMe SSDs only. **Other storage:** ■ A mini-storage module connector on the motherboard supports a boot-optimized RAID controller carrier that holds up to two SATA M.2 SSDs. ■ 8GB FlexMMC utility storage for staging of firmware and other user data. 8GB FlexMMC storage is built into the motherboard on M8.
Integrated management processor	Baseboard Management Controller (BMC) running Cisco Integrated Management Controller (CIMC) firmware. Depending on your CIMC settings, the CIMC can be accessed through the 1GE dedicated management port or a Cisco virtual interface card (VIC). CIMC manages certain components within the server, such as the Cisco 12G SAS HBA.
Front Panel	A front panel controller provides status indications and control buttons
ACPI	This server supports the advanced configuration and power interface (ACPI) version 6.5
Fans	Eight hot-swappable fans for front-to-rear cooling
Infiniband	The InfiniBand architecture is supported by the PCI slots.

Table 1 Capabilities and Features *(continued)*

Capability/Feature	Description
Storage controllers	Internal storage controllers: ■ Cisco 24G Tri-mode RAID controller • RAID support (RAID 0, 1, 5, 6, 10, 50, 60, RAID0, and RAID00) • Supports up to 14 internal SAS/SATA/NVMe drives External storage controllers: ■ Cisco 12G 9500-8e 12G SAS HBA for external JBOD attach
Modular LAN on Motherboard (mLOM)/Open Compute Project (OCP) 3.0 slot	The dedicated mLOM/OCP 3.0 slot on the motherboard can flexibly accommodate the following cards: ■ Cisco Virtual Interface Cards ■ OCP 3.0 network interface card
Intersight	Intersight provides server management capabilities
Firmware standards	■ UEFI Spec **2.9** ■ ACPI **6.5** ■ SMBIOS Ver **3.6**
CIMC	Cisco Integrated Management Controller 4.3(4) or later

CONFIGURING the SERVER

Follow these steps to configure the Cisco UCS C225 M8 SFF Rack Server:

STEP 1 VERIFY SERVER SKU

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

Table 2 Top level ordering PID (major line bundle)

Product ID (PID)	Description
UCS-M8-MLB	UCS M8 Rack, Blade, Chassis MLB This major line bundle (MLB) consists of the Rack Server (UCSC-C225-M8SX and UCSC-C225-M8N) with software PIDs. Use this PID to begin a new configuration.

Select server product ID (PID) from *Table 3*.

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

Table 3 PID of the C225 M8 SFF Rack Base Server

Product ID (PID)	Description
UCSC-C225-M8S[1]	Up to 10 SFF front drives with no CPU, memory, HDD, PCIe cards, or power supply. All drives can be SAS/SATA HDDS or SSDs or optionally any of bays 1, 2, 3 and 4 can be NVMe PCIe SSDs and the rest (bays 5 through 10) can be SAS/SATA HDDs or SSDs.
UCSC-C225-M8N[1]	Up to 10 SFF front drives (NVMe PCIe SSDs only) with no CPU, memory, HDD, PCIe cards, or power supply

Notes:

1. This product may not be purchased outside of the approved bundles (must be ordered under the MLB)

The Cisco UCS C225 M8 SFF server:

- Includes a 10-drive backplane
- Does not include power supply, CPU, memory DIMMs, hard disk drives (HDDs), solid-state drives (SSDs), NVMe drives, SD cards, riser 1, riser 2, riser 3, tool-less rail kit, or option cards.

NOTE: Use the steps on the following pages to configure the server with the components that you want to include.

STEP 2 SELECT RISERS

The riser PIDs are listed in *Table 4*.

CAUTION:

- Full-height risers cannot be mixed with half-height risers.
- Gen4 and Gen5 risers cannot be mixed.

Table 4 PIDs of the Risers and Riser Blanks

Product ID (PID)	Description
Riser 1 Option	
UCSC-RIS1A-225M8	UCS C-Series M8 1U Riser 1A PCIe **Gen4** x16 HH ■ Half-height riser 1 ■ One x16 PCIe Gen4 riser, standard PCIe, supports Cisco VIC, half-height, 3/4 length
UCSC-RIS1B-225M8	UCS C-Series M8 1U Riser 1B PCIe **Gen5** x16 HH ■ Half-height riser 1 ■ One x16 PCIe Gen5 riser, standard PCIe, supports Cisco VIC, half-height, 3/4 length
UCSC-RIS1C-225M8	UCS C-Series M8 1U Riser 1C PCIe **Gen5** x16 FH ■ Full-height riser 1 ■ One x16 PCIe Gen5 riser, standard PCIe, supports Cisco VIC, full-height, 3/4 length
Riser 2 Option	
UCSC-RIS2A-225M8	UCS C-Series M8 1U Riser 2A PCIe **Gen4** x16 HH ■ Half-height riser 2 ■ One x16 PCIe Gen4 riser, standard PCIe, half-height, 3/4 length
UCSC-RIS2B-225M8	UCS C-Series M8 1U Riser 2B PCIe **Gen5** x16 HH ■ Half-height riser 2 ■ One x16 PCIe Gen5 riser, standard PCIe, half-height, 3/4 length
Riser 3 Option	
UCSC-RIS3A-225M8	UCS C-Series M8 1U Riser 3A PCIe **Gen4** x16 HH ■ Half-height riser 3 ■ One x16 PCIe Gen4 riser, standard PCIe, supports Cisco VIC, half-height, 3/4 length
UCSC-RIS3C-225M8	UCS C-Series M8 1U Riser 3C PCIe **Gen5** x16 FH ■ Full-height riser 3 ■ One x16 PCIe Gen5 riser, standard PCIe, supports Cisco VIC, full-height, 3/4 length
Accessories/spare included along with selected risers: ■ UCSC-FBRS2-C220M8 for riser 2 and UCSC-FBRS-C220-D riser filler blank for riser 3 is auto included, if riser 2 or riser 3 are not selected. UCSC-FBRSF-220M8 is auto included if only one full height riser is selected	

STEP 3 SELECT CPU(s)

- 5th Gen. AMD EPYC™ processors highlights are:
  - CPU-to-CPU communication using Infinity Fabric Interconnect
  - Cache size of up to 512 MB
  - Up to 160 cores
  - Power: Up to 400Watts
- 4th Gen. AMD EPYC™ processors highlights are:
  - CPU-to-CPU communication using Infinity Fabric Interconnect
  - Cache size of up to 768 MB
  - Up to 128 cores
  - Power: Up to 360Watts

Select CPUs

- The available 5th Gen. AMD EPYC™ processors are listed in *Table 5*.
- The available 4th Gen. AMD EPYC™ processors are listed in *Table 6*.

CAUTION: For systems configured with processors operating above 28° C [82.4° F], a fan fault or executing workloads with extensive use of heavy instructions sets may assert thermal and/or performance faults with an associated event recorded in the System Event Log (SEL).

Table 5 Available 5th Gen. AMD EPYC™ CPUs

Product ID (PID)	Maximum Socket	Core	Clock Freq	Power	Cache Size	Highest DDR5 DIMM Clock Support
	(S)	(C)	(GHz)	(W)	(MB)	(MT/s)[1]
5th Gen EPYC 9005 Series Processors						
UCS-CPU-A9845[2]	1S	160	2.10	390	320	6000
UCS-CPU-A9825[2]	1S	144	2.20	390	384	6000
UCS-CPU-A9745[2]	1S	128	2.40	400	256	6000
UCS-CPU-A9655	1S	96	2.60	400	384	6000
UCS-CPU-A9645[2]	1S	96	2.30	320	256	6000
UCS-CPU-A9565[2]	1S	72	3.15	400	384	6000
UCS-CPU-A9555	1S	64	3.20	360	256	6000
UCS-CPU-A9535[2]	1S	64	2.40	300	256	6000
UCS-CPU-A9455[2]	1S	48	3.15	300	256	6000
UCS-CPU-A9365[2]	1S	36	3.40	300	192	6000
UCS-CPU-A9355	1S	32	3.55	280	256	6000

Table 5 Available 5th Gen. AMD EPYC™ CPUs

Product ID (PID)	Maximum Socket	Core	Clock Freq	Power	Cache Size	Highest DDR5 DIMM Clock Support
	(S)	(C)	(GHz)	(W)	(MB)	(MT/s)[1]
UCS-CPU-A9335[2]	1S	32	3.00	210	128	6000
UCS-CPU-A9255[2]	1S	24	3.25	200	128	6000
UCS-CPU-A9135	1S	16	3.65	200	64	6000
UCS-CPU-A9115[2]	1S	16	2.60	125	64	6000
UCS-CPU-A9015[2]	1S	8	3.60	125	64	6000
UCS-CPU-A9575F	1S	64	3.30	400	256	6000
UCS-CPU-A9475F[2]	1S	48	3.65	400	256	6000
UCS-CPU-A9375F[2]	1S	32	3.85	320	256	6000
UCS-CPU-A9275F[2]	1S	24	4.10	320	256	6000
UCS-CPU-A9175F[2]	1S	16	4.20	320	512	6000
UCS-CPU-A9655P[2]	1S	96	2.60	400	384	6000
UCS-CPU-A9555P[2]	1S	64	3.20	360	256	6000
UCS-CPU-A9455P[2]	1S	48	3.15	300	256	6000
UCS-CPU-A9355P[2]	1S	32	3.55	280	256	6000

Notes:

1. If higher or lower speed DIMMs are selected than what is shown in *Table 9 on page 21* for a given CPU speed, the DIMMs will be clocked at the lowest common denominator of CPU clock and DIMM clock.
2. SKU available in Q1CY25

Table 6 Available 4th Gen. AMD EPYC™ CPUs

Product ID (PID)	Maximum Socket	Core	Clock Freq	Power	Cache Size	Highest DDR5 DIMM Clock Support
	(S)	(C)	(GHz)	(W)	(MB)	(MT/s)[1]
4th Gen EPYC 97x4 Processors						
UCS-CPU-A9754	1S	128	2.25	360	256	4800
UCS-CPU-A9734	1S	112	2.20	340	256	4800
4th Gen EPYC 9004 Series Processor						
UCS-CPU-A9654	1S	96	2.40	360	384	4800
UCS-CPU-A9634	1S	84	2.25	290	384	4800
UCS-CPU-A9554	1S	64	3.10	360	256	4800
UCS-CPU-A9534	1S	64	2.45	280	256	4800
UCS-CPU-A9454	1S	48	2.75	290	256	4800
UCS-CPU-A9354	1S	32	3.25	280	256	4800
UCS-CPU-A9334	1S	32	2.70	210	128	4800
UCS-CPU-A9254	1S	24	2.90	200	128	4800

Table 6 Available 4th Gen. AMD EPYC™ CPUs

Product ID (PID)	Maximum Socket	Core	Clock Freq	Power	Cache Size	Highest DDR5 DIMM Clock Support
	(S)	(C)	(GHz)	(W)	(MB)	(MT/s)[1]
UCS-CPU-A9224	1S	24	2.50	200	64	4800
UCS-CPU-A9124	1S	16	3.00	200	64	4800
UCS-CPU-A9474F	1S	48	3.60	360	256	4800
UCS-CPU-A9374F	1S	32	3.85	320	256	4800
UCS-CPU-A9274F	1S	24	4.05	320	256	4800
UCS-CPU-A9174F	1S	16	4.10	320	256	4800
UCS-CPU-A9654P	1S	96	2.40	360	384	4800
UCS-CPU-A9554P	1S	64	3.10	360	256	4800
UCS-CPU-A9454P	1S	48	2.75	290	256	4800
UCS-CPU-A9354P	1S	32	3.25	280	256	4800
4th Gen EPYC 9004 Series with 3D V-Cache™ Technology						
UCS-CPU-A9384X	1S	32	3.10	320	768	4800
UCS-CPU-A9184X	1S	16	3.55	320	768	4800

Notes:

1. If higher or lower speed DIMMs are selected than what is shown in *Table 8 on page 20* for a given CPU speed, the DIMMs will be clocked at the lowest common denominator of CPU clock and DIMM clock.

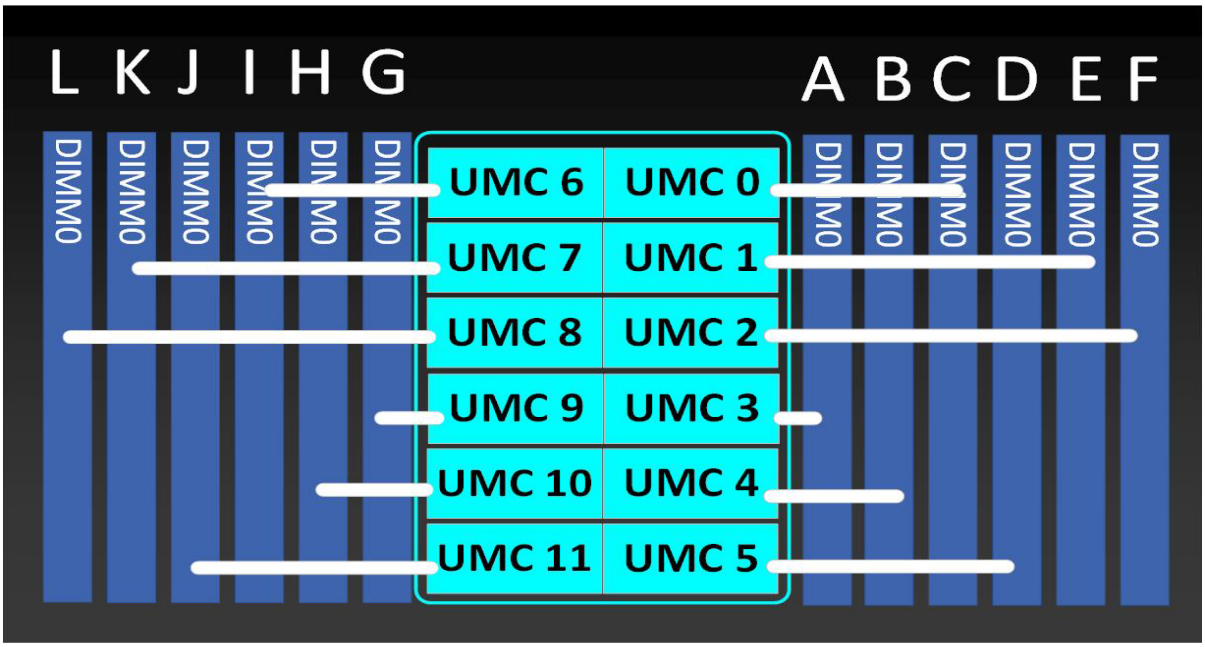
STEP 4 SELECT MEMORY (REQUIRED)

The *Table 7* below describes the main memory DIMM features supported on Cisco UCS C225 M8 rack server.

Table 7 C225 M8 Main Memory Features

Memory DIMM server technologies	Description
DDR5 memory clock speed	4th Gen. AMD EPYC™ CPUs: Up to 4800 MT/s 1DPC
	5th Gen. AMD EPYC™ CPUs: Up to 6000 MT/s 1DPC
Operational voltage	1.1 Volts
DRAM fab density	16Gb, 24Gb, and 32Gb
DRAM DIMM type	RDIMM (Registered DDR5 DIMM)
Memory DIMM organization	Twelve memory DIMM channels per CPU; 1 DIMM per channel only
Maximum number of DRAM DIMM per server	Up to 12 (1-Socket)
DRAM DIMM Densities and Ranks	16GB 1Rx8, 32GB 1Rx4, 48GB 1Rx4, 64GB 2Rx4, 96GB 2Rx4, 128GB 4Rx4, 128GB (32Gb) 2Rx4
Maximum system capacity (DRAM DIMMs only)	1.5TB (12x128GB)

Figure 5 12-Channel Memory Organization



Select DIMMs

The supported memory DIMMs are listed in *Table 8* and *Table 9*.

NOTE:

- When paired with 4th Gen. AMD EPYC™ CPUs, all memory DIMMs must be Cisco DDR5-5600 memory PIDs, although the memory will operate at the maximum speed of the 4th Gen. AMD EPYC™ CPUs memory controller, up to 4800 MT/s.
- When paired with 5th Gen. AMD EPYC™ CPUs, all memory DIMMs must be Cisco DDR5-6400 memory PIDs, although the memory will operate at the maximum speed of the 5th Gen. AMD EPYC™ CPUs memory controller, up to 6000 MT/s.

Table 8 Available DDR5 DIMMs for 4th Gen. AMD EPYC™ CPUs

Product ID (PID)	PID Description	Ranks/DIMM
DDR5-5600 MT/s PIDs list[1]		
UCS-MR128G4RE3	128GB DDR5-5600 RDIMM 4Rx4 (16Gb)	4
UCS-MR128G2RG3[2]	128GB DDR5-5600 RDIMM 2Rx4 (32Gb)	2
UCS-MRX96G2RF3	96GB DDR5-5600 RDIMM 2Rx4 (24Gb)	2
UCS-MRX64G2RE3	64GB DDR5-5600 RDIMM 2Rx4 (16Gb)	2
UCS-MRX48G1RF3	48GB DDR5-5600 RDIMM 1Rx4 (24Gb)	1
UCS-MRX32G1RE3	32GB DDR5-5600 RDIMM 1Rx4 (16Gb)	1
UCS-MRX16G1RE3	16GB DDR5-5600 RDIMM 1Rx8 (16Gb)	1
DIMM Blank[3]		
UCS-DIMM-BLK	UCS DIMM Blank	

Notes:

1. If higher or lower speed DIMMs are selected than for a given CPU speed, the DIMMs will be clocked at the lowest common denominator of CPU clock and DIMM clock. check the *Table 6* column **"Highest DDR5 DIMM Clock Support"**
2. Available in Q1CY25
3. Any empty DIMM slot must be populated with a DIMM blank to maintain proper cooling airflow.

Table 9 Available DDR5 DIMMs for 5th Gen. AMD EPYC™ CPUs

Product ID (PID)	PID Description	Ranks/DIMM
DDR5-6400 MT/s PIDs list[1,2]		
UCS-MRX64G2RE5	64GB DDR5-6400 RDIMM 2Rx4 (16Gb)	2
UCS-MRX32G1RE5	32GB DDR5-6400 RDIMM 1Rx4 (16Gb)	1
DIMM Blank[3]		
UCS-DIMM-BLK	UCS DIMM Blank	

Notes:

1. If higher or lower speed DIMMs are selected than for a given CPU speed, the DIMMs will be clocked at the lowest common denominator of CPU clock and DIMM clock. check the *Table 5* column **"Highest DDR5 DIMM Clock Support"**
2. DDR5-6400 16GB, 48GB, 96GB, 128GB will be available in Q1CY25
3. Any empty DIMM slot must be populated with a DIMM blank to maintain proper cooling airflow.

Memory configurations and mixing rules

- System speed is dependent on the CPU DIMM speed support. Refer to Available 4th Gen. AMD EPYC™ CPUs, page 17 and Available 5th Gen. AMD EPYC™ CPUs, page 16 for DIMM speeds.
- For full details on supported memory configurations see the **M8 Memory Guide.**
- DIMM Count Rules:

Table 10 Allowed DIMM Count for 1-CPU

Allowed DIMM Count rules	Minimum Count	Maximum Count	Allowed Count	Not Allowed Count
16GB, 32GB, 48GB, 64GB, 96GB, 128GB (4th and 5th Gen. AMD EPYC™ CPUs)[1]				
DIMM count for 1 CPU	1	12	1,2,4,6,8,10,12	3,5,7,9,11

Notes:

1. 1DPC support only.

- DIMM Population Rules:
  - When populating memory on a server powered by one or more 4th Gen. AMD EPYC™ CPUs:
    - All memory DIMMs must be RDIMM (16GB, 32GB, 48GB, 64GB, 96GB, and 128GB) or RDIMM 3DS (128GB, and 256GB) module types.
    - When paired with 4th Gen. AMD EPYC™ CPUs, all memory DIMMs must be Cisco DDR5-5600 memory PIDs, although the memory will operate at the maximum speed of the 4th Gen. AMD EPYC™ CPUs memory controller, up to 4800 MT/s.
    - When paired with 5th Gen. AMD EPYC™ CPUs, all memory DIMMs must be Cisco DDR5-6400 memory PIDs, although the memory will operate at the maximum speed of the 5th Gen. AMD EPYC™ CPUs memory controller, up to 6000 MT/s.
    - Balanced memory configurations maximize memory bandwidth by optimizing memory interleaving. To obtain a balanced memory configuration:
      - Populate each socket with 1, 2, 4, 6, 8, 10, or 12 memory channels.
      - Use the same memory configuration in all populated memory channels. No DIMM density mixing across channel is allowed.
      - No DIMM mixing within a channel is possible as C225 server supports only 1DPC.

Table 11 M8 DIMM population order for 16GB, 32GB, 48GB, 64GB, 96GB, 128GB

#DIMMs per CPU	DIMM Population - 16GB, 32GB, 48GB, 64GB, 128GB
	Slot 1 (Blue)
1	A1
2	A1, G1
4	A1, C1, G1, I1
6	A1, B1, C1, G1, H1, I1
8	A1, B1, C1, E1, G1, H1, I1, K1
10	A1, B1, C1, D1, E1, G1, H1, I1, J1, K1
12	A1, B1, C1, D1, E1, F1, G1, H1, I1,J1, K1, L1

- Memory Limitations:
  - Memory on every CPU socket shall be configured identically.
  - Refer to ***Table 11*** for DIMM population and DIMM mixing rules.
  - Cisco Memory DIMM PIDs used on M8 C225 server models powered by 4th Gen. AMD EPYC™ CPUs are DDR5-5600 PIDs, although the memory will operate at the maximum speed of the 4th Gen. AMD EPYC™ CPUs memory controller, up to 4800 MT/s. Check ***Table 12*** for CPU SKUs definition and maximum memory speed.
  - Cisco Memory DIMM PIDs used on M8 C225 server models powered by 5th Gen. AMD EPYC™ CPUs are DDR5-6400 PIDs, although the memory will operate at the maximum speed of the 4th Gen. AMD EPYC™ CPUs memory controller, up to 6000 MT/s. Check ***Table 13*** for CPU SKUs definition and maximum memory speed.

- For best performance, observe the following:

Table 12 Maximum Memory Operating Frequency - 4th Gen. AMD EPYC™ CPUs - 1 DIMM Per Channel only

4th Gen. CPU Memory Speed	DIMM Rank	DIMM Max operating Speed
RDIMM	One Rank, two Rank, four Rank, eight Rank	4800 MT/s

Table 13 Memory Maximum Operating Frequency - 5th Gen. AMD EPYC™ CPUs - 1 DIMM Per Channel only

5th Gen. CPU Memory Speed	DIMM Rank	DIMM Max operating Speed
RDIMM	One Rank, two Rank, four Rank	6000 MT/s

NOTE: For full details on supported memory configurations see the **M8 Memory guide**

STEP 5 SELECT DRIVE CONTROLLERS

The following list summarizes how drives are controlled on the server:

- Up to 10 SAS/SATA/NVMe drives are controlled through a Cisco 24G Tri-mode RAID controller

RAID Volumes and Groups

When creating each RAID volume, follow these guidelines:

- Use the same capacity for each drive in each RAID volume
- For the Cisco 24G Tri-mode RAID controller, use either all SAS HDDs, or all SAS SSDs, or all SATA SSDs or NVMe SSDs in each RAID volume.

NOTE: 240 virtual drives (VDs) per controller, with up to 16 per disk group with the 24G Tri Mode Controller.

Select RAID Controller Options

Select the following:

- Cisco 24G Tri-mode RAID controller (see *Table 14*)

NOTE:

- If the Cisco 24G Tri-mode RAID controller, it is factory-installed in a dedicated slot.
- There is no RAID support for direct-attach NVMe drives.

Table 14 Hardware Controller Options

Product ID (PID)	PID Description
Controllers for Internal Drives	
UCSC-RAID-HP[1,2]	Cisco Tri-Mode 24G SAS RAID Controller w/4GB Cache ■ This RAID controller supports up to 16 SAS HDDs and SAS/SATA/NVMe SSDs operating at 3Gbps, 6Gbps, 12Gbps and 24Gbps. It includes a SuperCap and a 4GB flash-back write cache (FBWC) ■ Supports RAID0, RAID00, 1, 5, 6, 10, 50, 60, and JBOD mode and supports mixed RAID and JBOD mode. ■ The RAID controller plugs directly into a dedicated slot. ■ For all self-encrypting drives (SED), standalone Management (CIMC/UCSM) is supported for configuring and managing local keys. For now, SED drives are managed with local key management only. Third-party key management will be supported (KMIP compliant).
Controllers for External Drives	

Table 14 Hardware Controller Options *(continued)*

Product ID (PID)	PID Description
UCSC-9500-8E-D	9500 Series PCIe Gen 4.0 Tri-Mode Storage HBA 12Gb/s SAS/SATA/PCIe (NVMe) ■ External Storage HBA plugs in to PCIe slot ■ This controller is half-height half-length and can be installed in riser 1, 2, or 3.
Accessories/spare included with drive controller (For UCSC-C225-M8SX): ■ UCS-SCAP-D, CBL-SCAP-C220-D and UCSC-HPBKT-225M8 are included with the selection of **UCSC-RAID-HP** drive controller. **NOTE:** If you are adding drive controller later as spare, you may need to order cables/supercap/super cables and controllers bracket with it.	

Notes:

1. When ordering UCSC-RAID-HP, please note that mixing SAS/SATA and NVMe drives in a single RAID volume is not supported. Virtual drives can only be created with drives of the same type.
2. U.3 NVMe drives selected with the Tri-mode RAID controller (UCSC-RAID-HP) will be set to RAID attached as the factory default. The U.3 drives in slots 1-4 can however operate in U.2 mode, directly attached to the CPU. This mode can be changed from the Cisco IMC if desired.

RAID Configuration Option

Select one of the RAID Configuration option from the following ***Table 15***.

CAUTION: All RAID options require drives of same sector size and media type. The smallest drive capacity will be used to calculate the RAID volume size.

Table 15 RAID Configuration Options

Product ID (PID)	PID Description
NOTE: Not available for Cisco 12G SAS HBA	
R2XX-SRAID0D	Enable single disk RAID 0 Setting.
R2XX-RAID0D	Factory preconfigured RAID striping option Enable RAID 0 Setting. Requires two or more drive.
R2XX-RAID00D	Factory preconfigured RAID striping option Enable RAID 00 Setting. Requires two or more drive.
R2XX-RAID1D	Factory preconfigured RAID mirroring option Enable RAID 1 Setting. Requires even number of drives (minimum of two).
R2XX-RAID5D	Factory preconfigured RAID option Enable RAID 5 Setting. Requires a minimum of three drives
R2XX-RAID6D	Factory preconfigured RAID option Enable RAID 6 Setting. Requires a minimum of four drives.
R2XX-RAID10D	Factory preconfigured RAID option Enable RAID 10 Setting. Requires even number of drives (minimum of 2 drives per span)

Table 15 RAID Configuration Options *(continued)*

Product ID (PID)	PID Description
R2XX-RAID50D	Factory preconfigured RAID option Enable RAID 50 Setting. Requires minimum of three drives per span
R2XX-RAID60D	Factory preconfigured RAID option Enable RAID 60 Setting. Requires minimum of four drives per span.

Approved Configurations

Cisco UCS C225 M8 SFF server can be ordered as follows:

- UCSC-C225-M8SX (10-drive SAS/SATA/NVMe backplane and optionally 4 of those can be direct-attach NVMe)
- UCSC-C225-M8N (10-drive direct-attach NVMe only)
- There is no RAID support for direct-attach NVMe drives.

STEP 6 SELECT DRIVES

The standard disk drive features are:

- 2.5-inch small form factor
- Hot-pluggable
- Drives come mounted in sleds

Select Drives

- The available NVMe SSDs drives for **UCSC-C225-M8N** is listed in *Table 16*
- The available SAS/SATA SSDs and HDDs drives for **UCSC-C225-M8S** is listed *Table 17*

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 16 Available NVMe drives for UCSC-C225-M8N

Product ID (PID)	PID Description	Drive Type	Form Factor	Capacity
PCIe/NVMe SFF (2.5-inch) SFF drives				
UCS-NVME4-1600-D	1.6TB 2.5in U.2 P5620 NVMe High Perf High Endurance	NVMe	U.2	1.6 TB
UCS-NVME4-1920-D	1.9TB 2.5in U.2 P5520 NVMe High Perf Medium Endurance	NVMe	U.2	1.9 TB
UCS-NVME4-3200-D	3.2TB 2.5in U.2 P5620 NVMe High Perf High Endurance	NVMe	U.2	3.2 TB
UCS-NVME4-3840-D	3.8TB 2.5in U.2 P5520 NVMe High Perf Medium Endurance	NVMe	U.2	3.8 TB
UCS-NVME4-6400-D	6.4TB 2.5in U.2 P5620 NVMe High Perf High Endurance	NVMe	U.2	6.4 TB
UCS-NVME4-7680-D	7.6TB 2.5in U.2 P5520 NVMe High Perf Medium Endurance	NVMe	U.2	7.6 TB
UCS-NVME4-15360-D	15.3TB 2.5in U.2 P5520 NVMe High Perf Medium Endurance	NVMe	U.2	15.3 TB
UCS-NVMEQ-1536-D	15.3TB 2.5in U.2 P5316 NVMe High Perf Low Endurance	NVMe	U.2	15.3 TB
UCS-NVMEG4-M960-D[1]	960GB 2.5in U.3 Micron P7450 NVMe High Perf Medium Endurance	NVMe	U.3	960 GB
UCS-NVMEG4-M1600D[1]	1.6TB 2.5in U.3 Micron P7450 NVMe High Perf High Endurance	NVMe	U.3	1.6 TB
UCS-NVMEG4-M1920D[1]	1.9TB 2.5in U.3 Micron P7450 NVMe High Perf Medium Endurance	NVMe	U.3	1.9 TB
UCS-NVMEG4-M3840D[1]	3.8TB 2.5in U.3 Micron P7450 NVMe High Perf Medium Endurance	NVMe	U.3	3.8 TB

Table 16 Available NVMe drives *(continued)*for UCSC-C225-M8N

Product ID (PID)	PID Description	Drive Type	Form Factor	Capacity
UCS-NVMEG4-M3200D[1]	3.2TB 2.5in U.3 Micron P7450 NVMe High Perf High Endurance	NVMe	U.3	3.2 TB
UCS-NVMEG4-M6400D[1]	6.4TB 2.5in U.3 Micron P7450 NVMe High Perf High Endurance	NVMe	U.3	6.4 TB
UCS-NVMEG4-M7680D[1]	7.6TB 2.5in U.3 Micron P7450 NVMe High Perf Medium Endurance	NVMe	U.3	7.6 TB
UCS-NVMEG4-M1536D[1]	15.3TB 2.5in U.3 MicronP7450 NVMe High Perf Medium Endurance	NVMe	U.3	15.3 TB
■ CBL-FNVME-C220M7 is auto included with selection of U.3 NVMe drives and Raid controller UCSC-RAID-HP				

Notes:

1. Only U.3 drives are allowed with RAID 24G Tri-mode RAID Controller and NVMe Hardware RAID.

Table 17 Available SAS/SATA SSD and HDDs for UCSC-C225-M8S

Product ID (PID)	PID Description	Drive Type	Capacity
HDDs			
HDDs (10K RPM)			
UCS-HD600G10KJ4-D	600 GB 12G SAS 10K RPM SFF HDD	SAS	600 GB
UCS-HD12TB10KJ4-D	1.2 TB 12G SAS 10K RPM SFF HDD	SAS	1.2 TB
UCS-HD18TB10KJ4-D	1.8 TB 12G SAS 10K RPM SFF HDD (4K)	SAS	1.8 TB
UCS-HD24TB10KJ4-D	2.4 TB 12G SAS 10K RPM SFF HDD (4K)	SAS	2.4 TB
Enterprise Performance SAS/SATA SSDs (High endurance, supports up to 10X or 3X DWPD (drive writes per day))			
SATA			
UCS-SD480G63XEP-D	480 GB 2.5in Enterprise Performance 6G SATA SSD(3X endurance)	SATA	480 GB
UCS-SD960G63XEP-D	960 GB 2.5in Enterprise performance 6G SATA SSD(3X endurance)	SATA	960 GB
UCS-SD19T63X-EP-D	1.9 TB 2.5in Enterprise performance 6G SATA SSD(3X endurance)	SATA	1.9 TB
UCS-SD38T63X-EP-D	3.8 TB 2.5in Enterprise performance 6G SATA SSD(3X endurance)	SATA	3.8 TB
UCS-SD480GBM3XEPD	480GB SATA SSD 3DWPD	SATA	480 GB
UCS-SD960GBM3XEPD	960GB SATA SSD 3DWPD	SATA	960 GB
UCS-SD19TBM3XEP-D	1.9TB SATA SSD 3DWPD	SATA	1.9 TB
SAS			
UCS-SD16TKA3XEP-D	1.6TB 2.5in Enter Perf 24G SAS Kioxia PM7 SSD (3X)	SAS	1.6 TB
UCS-SD32TKA3XEP-D	3.2TB 2.5in Enter Perf 24G SAS Kioxia PM7 SSD (3X)	SAS	3.2 TB
Enterprise Value SAS/SATA SSDs (Low endurance, supports up to 1X DWPD (drive writes per day))			
SATA			
UCS-SD240GBM1XEVD	240GB SATA SSD 1DWPD	SATA	240 GB
UCS-SD480GBM1XEVD	480GB SATA SSD 1DWPD	SATA	480 GB
UCS-SD960GBM1XEVD	960GB SATA SSD 1DWPD	SATA	960 GB
UCS-SD16TBM1XEV-D	1.6GB SATA SSD 1DWPD	SATA	1.6 TB

Table 17 Available SAS/SATA SSD and HDDs *(continued)*for UCSC-C225-M8S

Product ID (PID)	PID Description	Drive Type	Capacity
UCS-SD19TBM1XEV-D	1.9TB SATA SSD 1DWPD	SATA	1.9 TB
UCS-SD38TBM1XEV-D	3.8TB SATA SSD 1DWPD	SATA	3.8 TB
UCS-SD76TBM1XEV-D	7.6TB SATA SSD 1DWPD	SATA	7.6 TB
UCS-SDB960SA1VD	960GB 2.5in 6G SATA Enter Value 1X Samsung G1PM893A SSD	SATA	960 GB
UCS-SDB1T9SA1VD	1.9TB 2.5in 6G SATA Enter Value 1X Samsung G1PM893A SSD	SATA	1.9 TB
UCS-SDB3T8SA1VD	3.8TB 2.5in 6G SATA Enter Value 1X Samsung G1PM893A SSD	SATA	3.8 TB
UCS-SDB7T6SA1VD	7.6TB 2.5in 6G SATA Enter Value 1X Samsung G1PM893A SSD	SATA	7.6 TB
SAS			
UCS-SD19TKA1XEV-D	1.9TB 2.5in Enter Value 24G SAS Kioxia PM7 SSD	SAS	1.9 TB
UCS-SD38TKA1XEV-D	3.8TB 2.5in Enter Value 24G SAS Kioxia PM7 SSD	SAS	3.8 TB
UCS-SD76TKA1XEV-D	7.6TB 2.5in Enter Value 24G SAS Kioxia PM7 SSD	SAS	7.6 TB
UCS-SD15TKA1XEV-D	15.3TB 2.5in Enter Value 24G SAS Kioxia PM7 SSD	SAS	15.3 TB
Self-Encrypted Drives (SED) (1X or 3X)			
SATA			
UCS-SD19TEM2NK9-D	1.9TB Enterprise value SATA SSD (1X , SED)	SATA	1.9 TB
UCS-SD38TEM2NK9-D	3.8TB Enterprise value SATA SSD (1X, SED)	SATA	3.8 TB
UCS-SD76TEM2NK9-D	7.6TB Enterprise value SATA SSD (1X, SED)	SATA	7.6 TB
UCS-SD960GM2NK9-D	960GB Enterprise value SATA SSD (1X, SED)	SATA	960 GB
SAS			
UCS-SD16TBKANK9-D	1.6TB 2.5" Enterprise performance 12GSAS SSD(3DWPD,SED-FIPS) **FIPS140-2**	SAS	1.6 TB
UCS-SD38TBKANK9-D	3.8TB 2.5" Enterprise value 12G SAS SSD (1DWPD, SED-FIPS) **FIPS140-2**	SAS	3.8 TB
UCS-SD76TBKANK9-D	7.6TB Enterprise value SAS SSD (1DWPD, SED-FIPS) **FIPS140-2**	SAS	7.6 TB
U.3 PCIe/NVMe SFF (2.5-inch) SFF drives			
UCS-NVME4-1600-D	1.6TB 2.5in U.2 P5620 NVMe High Perf High Endurance	NVMe	1.6 TB
UCS-NVME4-1920-D	1.9TB 2.5in U.2 P5520 NVMe High Perf Medium Endurance	NVMe	1.9 TB
UCS-NVME4-3200-D	3.2TB 2.5in U.2 P5620 NVMe High Perf High Endurance	NVMe	3.2 TB
UCS-NVME4-3840-D	3.8TB 2.5in U.2 P5520 NVMe High Perf Medium Endurance	NVMe	3.8 TB
UCS-NVME4-6400-D	6.4TB 2.5in U.2 P5620 NVMe High Perf High Endurance	NVMe	6.4 TB
UCS-NVME4-7680-D	7.6TB 2.5in U.2 P5520 NVMe High Perf Medium Endurance	NVMe	7.6 TB
UCS-NVME4-15360-D	15.3TB 2.5in U.2 P5520 NVMe High Perf Medium Endurance	NVMe	15.3 TB
UCS-NVMEQ-1536-D	15.3TB 2.5in U.2 P5316 NVMe High Perf Low Endurance	NVMe	15.3 TB
UCS-NVMEG4-M960-D[1]	960GB 2.5in U.3 Micron P7450 NVMe High Perf Medium Endurance	NVMe	960 GB
UCS-NVMEG4-M1920D[1]	1.9TB 2.5in U.3 Micron P7450 NVMe High Perf Medium Endurance	NVMe	1.9 TB
UCS-NVMEG4-M3840D[1]	3.8TB 2.5in U.3 Micron P7450 NVMe High Perf Medium Endurance	NVMe	3.8 TB
UCS-NVMEG4-M7680D[1]	7.6TB 2.5in U.3 Micron P7450 NVMe High Perf Medium Endurance	NVMe	7.6 TB
UCS-NVMEG4-M1536D[1]	15.3TB 2.5in U.3 MicronP7450 NVMe High Perf Medium Endurance	NVMe	15.3 TB

Table 17 Available SAS/SATA SSD and HDDs *(continued)*for UCSC-C225-M8S

Product ID (PID)	PID Description	Drive Type	Capacity
UCS-NVMEG4-M1600D[1]	1.6TB 2.5in U.3 Micron P7450 NVMe High Perf High Endurance	NVMe	1.6 TB
UCS-NVMEG4-M3200D[1]	3.2TB 2.5in U.3 Micron P7450 NVMe High Perf High Endurance	NVMe	3.2 TB
UCS-NVMEG4-M6400D[1]	6.4TB 2.5in U.3 Micron P7450 NVMe High Perf High Endurance	NVMe	6.4 TB
Accessories/spare included with drives (For UCSC-C225-M8S): ■ CBL-FNVME-C220M7 is auto included with selection of U.3 NVMe drives and Raid controller UCSC-RAID-HP ■ CBL-SATA-C220-D is included with the selection of the SATA drives. ■ UCSC-BBLKD-M7 is included for the not selected front storage device. **NOTE:** If you are adding drive later as spare, you may need to order cables with it.			

Notes:

1. Only U.3 drives are allowed with RAID 24G Tri-mode RAID Controller and NVMe Hardware RAID.

Caveats

- With the UCSC-C220-M7S:
  - You can choose only SATA HDDs when using AHCI with a SATA Interposer. The drives must be installed in slots 1-8.
  - You can mix HDDs and SSDs as long as you keep all HDDs in their own RAID volume and all SSDs in their own RAID volume.
  - SED drives can be mixed with the non-SED drives in *Table 17 on page 28*.
- SFF NVMe drives are bootable in UEFI mode only.

STEP 7 SELECT OPTION CARD(s)

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

The standard card offerings are:

- Modular LAN on Motherboard (mLOM)
- Virtual Interface Cards (VICs)
- Network Interface Cards (NICs)
- Open Compute Project (OCP) 3.0 NIC
- Host Bus Adapters (HBAs)

Select Option Cards

The available option cards are listed in ***Table 18***.

Table 18 Available Option Cards

Product ID (PID)	PID Description	Location	Card Size[1]
Modular LAN on Motherboard (mLOM)/OCP			
UCSC-M-V5Q50GV2-D	Cisco UCS VIC 15427 Quad Port CNA MLOM with Secure Boot	mLOM	HHHL, SS
UCSC-M-V5D200GV2D	Cisco VIC 15237 2x 40/100/200G mLOM C-Series w/Secure Boot	mLOM	HHHL, SS
UCSC-O-ID10GC[2]	Intel X710T2LOCPV3G1L 2x10GbE RJ45 OCP3.0 NIC	mLOM/OCP 3.0 slot	-
Virtual Interface Card (VICs)			
UCSC-P-V5Q50G-D	Cisco UCS VIC 15425 Quad Port 10/25/50G CNA PCIE	Riser 1 or 2	HHHL, SS
UCSC-P-V5D200G-D	Cisco UCS VIC 15235 Dual Port 40/100/200G CNA PCIE	Riser 1 or 2	HHHL, SS
Network Interface Cards (NICs)			
1 GbE NICs			
UCSC-P-IQ1GC	Cisco-Intel I710-T4L 4x1GBASE-T NIC	Riser 1, 2, or 3	HHHL, SS
10 GbE NICs			
UCSC-PCIEID10GF-D	Intel X710-DA2 Dual Port 10Gb SFP+ NIC	Riser 1, 2, or 3	HHHL, SS
UCSC-P-ID10GC-D	Cisco-Intel X710T2LG 2x10 GbE RJ45 PCIe NIC	Riser 1, 2, or 3	HHHL, SS
UCSC-P-IQ10GC-D	Cisco-Intel X710T4LG 4x10 GbE RJ45 PCIe NIC	Riser 1, 2, or 3	HHHL, SS
UCSC-PCIEIQ10GF-D	Intel X710 quad-port 10G SFP+ NIC	Riser 1, 2, or 3	HHHL, SS
25 GbE NICs			
UCSC-P-I8D25GF-D	Cisco-Intel E810XXVDA2 2x25/10 GbE SFP28 PCIe NIC	Riser 1, 2, or 3	HHHL, SS
UCSC-P-I8Q25GF-D	Cisco-Intel E810XXVDA4L 4x25/10 GbE SFP28 PCIe NIC	Riser 1, 2, or 3	HHHL, SS
UCSC-P-N7Q25GF	MCX713104AS-ADAT: CX-7 4x25GbE SFP56 PCIe Gen4x16, VPI NIC	Riser 1, 2, or 3	HHHL, SS

Table 18 Available Option Cards *(continued)*

Product ID (PID)	PID Description	Location	Card Size[1]
UCSC-P-N6D25GF-D	Cisco-NVDA MCX631102AS-ADAT CX6Lx 2x25GbE SFP28 x8 PCIe NIC	Riser 1, 2, or 3	HHHL, SS
100 GbE NICs			
UCSC-P-I8D100GF-D	Cisco-Intel E810CQDA2 2x100 GbE QSFP28 PCIe NIC	Riser 1, 2, or 3	HHHL, SS
UCSC-P-MDD100GF-D	Cisco-MLNX MCX623106AS-CDAT 2x100GbE QSFP56 PCIe NIC	Riser 1, 2, or 3	HHHL, SS
UCSC-P-MCD100GF-D	Cisco-MLNX MCX623106AC-CDAT 2x100GbE QSFP56 PCIe NIC	Riser 1, 2, or 3	HHHL, SS
200 GbE NICs			
UCSC-P-N7D200GF	MCX755106AS-HEAT:CX-7 2x200GbE QSFP112 PCIe Gen5x16, VPI NIC	Riser 1, 2, or 3	HHHL, SS
Host Bus Adapters (HBAs)			
UCSC-P-Q6D32GF-D	Cisco-QLogic QLE2772 2x32GFC Gen 6 Enhanced PCIe HBA	Riser 1, 2, or 3	HHHL, SS
UCSC-P-B7D32GF-D	Cisco-Emulex LPe35002-M2-2x32GFC Gen 7 PCIe HBA	Riser 1, 2, or 3	HHHL, SS
UCSC-P-Q7D64GF	Cisco-QLogic QLE2872, 2x64GFC Gen 7 PCIe HBA	Riser 1, 2, or 3	HHHL, SS

Notes:

1. HHHL = half-height, half-length; HHHL = half-height, half-length; SS = single-slot; DS = double-slot
2. The UCSC-O-ID10GC is an OCP 3.0 adapter and fits in mLOM /OCP 3.0 slot using a special mechanical connector add-on. See the following link for installation instructions: https://www.cisco.com/content/en/us/td/docs/unified_computing/ucs/c/hw/c225m6/install/c225m6.html

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 8 ORDER GPU CARDS (OPTIONAL)

CAUTION:

- Gen4 and Gen5 risers cannot be mixed, for example: If UCSC-RIS2A-225M8 (GEN4) is selected, cannot select UCSC-RIS2B-225M8 (GEN5)

Select GPU Options

The available GPU PCIe options are listed in *Table 19*.

Table 19 Available PCIe GPU Cards[1]

Product ID (PID)	PID Description	Card Size	Maximum cards Per node	Riser Compatibility
UCSC-GPU-L4	NVIDIA L4:70W, 24GB, 1-slot HHHL GPU	HHHL, single-wide	3	Gen 4 & Gen 5 Half Height and Full Hight Riser

Notes:

1. Refer to installation guide for the more details.

NOTE:

- All GPU cards must be procured from Cisco as there is a unique SBIOS ID required by CIMC and UCSM
- GPUs cannot be mixed.

STEP 9 ORDER POWER SUPPLY

Power supplies share a common electrical and physical design that allows for hot-plug and tool-less installation into M6 C-series servers. Each power supply is certified for high-efficiency operation and offer multiple power output options. This allows users to “right-size” based on server configuration, which improves power efficiency, lower overall energy costs and avoid stranded capacity in the data center. Use the power calculator at the following link to determine the needed power based on the options chosen (CPU, 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 20 Power Supply

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

NOTE: In a server with two power supplies, both power supplies must be identical.

STEP 10 SELECT INPUT POWER CORD(s)

Using *Table 21* and *Table 22*, select the appropriate AC power cords. You can select a minimum of no power cords and a maximum of two. If you select the option R2XX-DMYMPWRCORD, no power cord is shipped with the server.

NOTE: *Table 21* lists the power cords for servers that use power supplies less than 2300 W. *Table 22* 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 21 Available Power Cords (for server PSUs less than 2300 W)

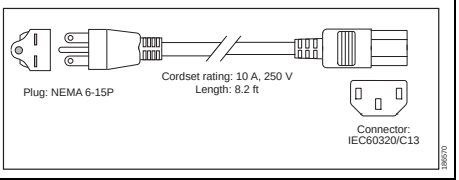
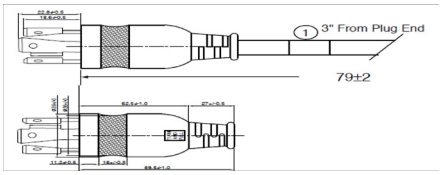
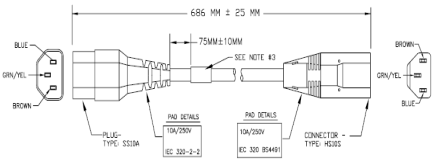
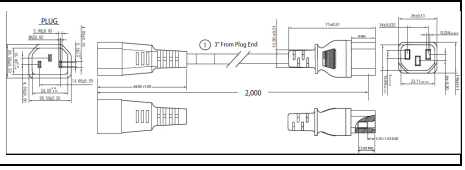
Product ID (PID)	PID Description	Images
NO-POWER-CORD	ECO friendly green option, no power cable will be shipped	
R2XX-DMYMPWRCORD	No power cord (dummy PID to allow for a no power cord option)	Not applicable
CAB-48DC-40A-8AWG	C-Series -48VDC PSU Power Cord, 3.5M, 3 Wire, 8AWG, 40A	
CAB-N5K6A-NA	Power 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 21 Available Power Cords (for server PSUs less than 2300 W)

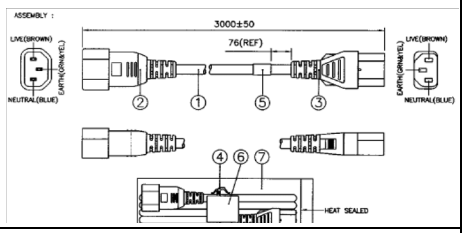
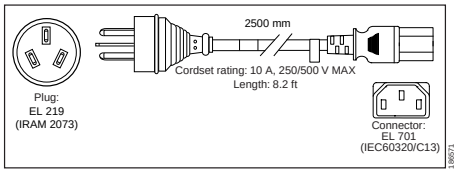
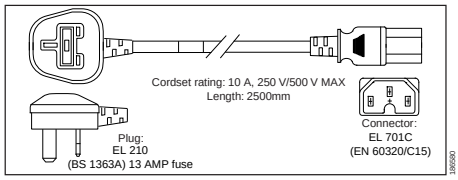
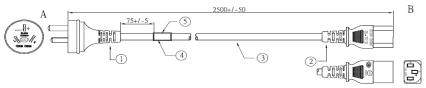
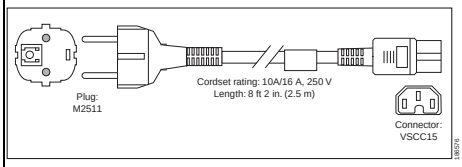
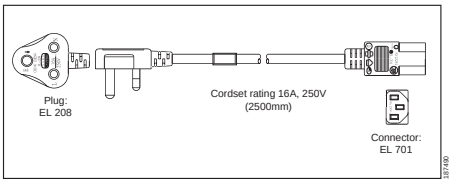
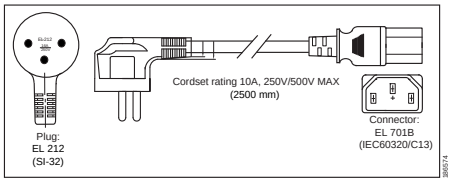
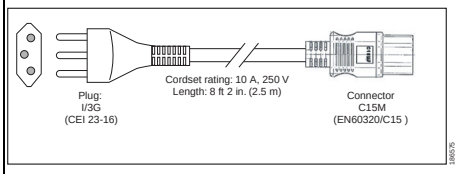
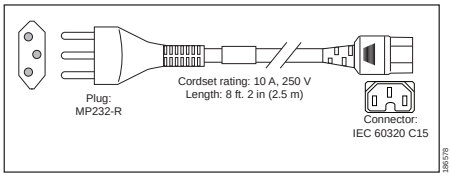
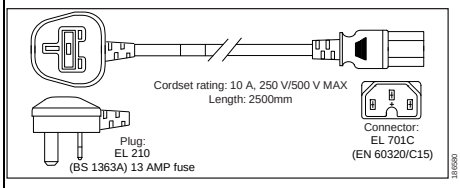
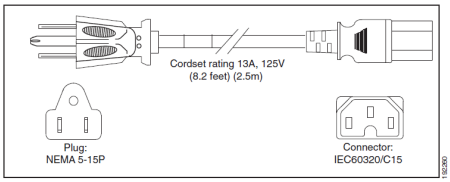
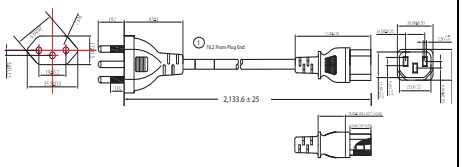
Product ID (PID)	PID Description	Images
CAB-C13-C14-AC	CORD,PWR,JMP,IEC60320/C14,IEC60320/C13, 3.0M	
CAB-250V-10A-AR	Power Cord, 250V, 10A, Argentina	
CAB-9K10A-AU	Power Cord, 250VAC 10A 3112 Plug, Australia	
CAB-250V-10A-CN	AC Power Cord - 250V, 10A - PRC	
CAB-9K10A-EU	Power Cord, 250VAC 10A CEE 7/7 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 21 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

Notes:

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

Table 22 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-C14C19-10A-EU	Power Cord C14-C19 10A EU	Image is not available
CAB-C2316-C19-IT	CEI 23-16 to IEC-C19 14ft Italy	Image not available
CAB-L520P-C19-US	NEMA L5-20 to IEC-C19 6ft US	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

STEP 11 ORDER TOOL-LESS RAIL KIT AND OPTIONAL REVERSIBLE CABLE MANAGEMENT ARM

Select a Tool-less Rail Kit

Select a tool-less rail kit (or no rail kit) from *Table 23*.

Table 23 Tool-less Rail Kit Options

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

NOTE: Cisco recommends a minimum quantity of 1 Rail Kit.

Select an 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. Use *Table 24* to order a cable management arm.

Table 24 Cable Management Arm

Product ID (PID)	PID Description
UCSC-CMA-C220-D	Reversible CMA for M8 ball bearing rail kit

For more information about the tool-less rail kit and cable management arm, see the *Cisco UCS C225 M8 Installation and Service Guide* at this URL:

https://www.cisco.com/content/en/us/td/docs/unified_computing/ucs/c/hw/c225m8/install/c225m8.html

NOTE: If you plan to rackmount your UCS C225 M8 server, you must order a tool-less rail kit. The same rail kits and CMAs are used for M5 and M6 servers.

STEP 12 SELECT MANAGEMENT CONFIGURATION (OPTIONAL)

By default, the C225 M8 server NIC mode is configured to be Shared LOM Extended. This NIC mode allows any LOM port or adapter card port to be used to access the Cisco Integrated.In addition, the optional software PIDS listed in *Table 25 on page 41* can be ordered for setting the server to operate in various modes.

NOTE:

- There are no LOM ports on the C225 M8 servers. Servers ordered without a VIC or OCP card will ship in Dedicated network mode, unless otherwise specified by a configurable SW PID **(UCSC-CCARD-01)**
- For full details on all the NIC mode settings, see

https://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/c/hw/c220m6/install/c220m7/m_maintaining_the_server.html?bookSearch=true

Table 25 Management Configuration Ordering Information

Product ID (PID)	PID Description
UCSC-DLOM-01-D	Dedicated Mode BIOS setting for C-Series Servers ■ To change the default NIC mode to Dedicated NIC mode, select this card ■ In Dedicated NIC mode, the CIMC can be accessed only through the dedicated management port. ■ See **Chassis Rear View (two full-height, 3/4-length PCIe risers), page 9** for the location of the management port
UCSC-CCARD-01-D	Cisco Card Mode BIOS setting for C-Series Servers ■ To change the default NIC mode to Cisco Card Mode, select this card ■ If Cisco card selected, a VIC or MLOM must also be included in the configuration. if OCP card is included in the configuration, a VIC card must be selected. ■ In this mode, you can assign an IP address to the CIMC using DHCP and from there you can fully automate your deployment.

STEP 13 ORDER SECURITY DEVICES (OPTIONAL)

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 26*

NOTE:

- The TPM module used in this system conforms to TPM v2.0, 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 26 Security Devices

Product ID (PID)	PID Description
UCS-TPM2-002D-D	Trusted Platform Module 2.0 FIPS 140-2 and Windows 22 compliant for AMD M8 servers
UCSX-TPM-OPT-OUT-D	OPT OUT, TPM 2.0, TCG, FIPS140-2, CC EAL4+ Certified[1]
UCSC-INT-SW02-D	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

STEP 14 SELECT LOCKING SECURITY BEZEL (OPTIONAL)

An optional locking bezel can be mounted to the front of the chassis to prevent unauthorized access to the drives.

Select the locking bezel from *Table 27*.

Table 27 Locking Bezel Option

Product ID (PID)	Description
UCSC-BZL-C220-D	Security Bezel

STEP 15 ORDER M.2 SATA SSDs (OPTIONAL)

- Order one or two matching M.2 SATA SSDs from *Table 28* along with a boot-optimized RAID controller (see *Table 29*). See *Figure 6 on page 49* for the location of the module connector on the motherboard. The motherboard connector accepts the extender board and the extender board accepts the boot-optimized RAID controller. Each boot-optimized RAID controller can accommodate up to two SATA M.2 SSDs

NOTE:

- It is recommended that M.2 SATA SSDs be used as boot-only devices.
- Order one or two identical M.2 SATA SSDs for the boot optimized RAID controller
- You cannot mix M.2 SATA SSD capacities.

Table 28 M.2 SATA SSDs

Product ID (PID)	PID Description
UCS-M2-I240GB-D	240GB SATA M.2 SSD
UCS-M2-I480GB-D	480GB SATA M.2 SSD
UCS-M2-240G-D	240GB M.2 SATA Micron G2 SSD
UCS-M2-480G-D	480GB M.2 SATA SSD
UCS-M2-960G-D	960GB M.2 SATA Micron G2 SSD

- Order Cisco boot optimized M.2 RAID controller from *Table 29*. The boot optimized RAID controller plugs into a extender board on the motherboard and holds up to two M.2 SATA drives.

NOTE:

- The Cisco boot optimized M.2 RAID controller supports Windows and Linux Operating Systems
- The Cisco boot optimized M.2 RAID controller supports RAID 1 and JBOD mode
- The Cisco boot optimized M.2 RAID controller is available only with 240GB, 480GB, and 960GB M.2 SSDs.
- CIMC is supported for configuring of volumes and monitoring of the controller and installed SATA M.2 drives
- The SATA M.2 drives can boot in UEFI mode only. Legacy boot mode is not supported
- Hot-plug replacement is not supported. The server must be powered off.

Table 29 Boot-Optimized RAID Controller

Product ID (PID)	PID Description
UCS-M2-HWRAID-D	Cisco Boot optimized M.2 RAID controller (holds up to two M.2 SATA SSDs)
Accessories/spare included with Boot-Optimized RAID Controller: ■ UCSC-M2EXT-240-D is included with the selection of this Boot-Optimized RAID Controller. **NOTE:** if you are adding later UCS-M2-HWRAID-D= as a spare you may need order UCSC-M2EXT-240-D= along with it	

STEP 16 ORDER M.2 NVMe AND RAID CONTROLLER(OPTIONAL)

- Order one or two matching M.2 NVMe from *Table 30* along with a boot-optimized RAID controller (see *Table 31*). See *Figure 6 on page 49* for the location of the module connector on the motherboard. This connector accepts the boot-optimized RAID controller. Each boot-optimized RAID controller can accommodate up to two SATA M.2 NVMeOrder Cisco boot optimized M.2 NVMe RAID controller from

NOTE:

- It is recommended that M.2 NVMe be used as boot-only devices.
- Order one or two identical M.2 NVMe for the boot optimized RAID controller
- You cannot mix M.2 NVMe capacities.

Table 30 M.2 NVMe

Product ID (PID)	PID Description
UCS-NVM2-400GB	400GB M.2 Boot NVMe
UCS-NVM2-960GB	960GB M.2 Boot NVMe

Table 31. The boot optimized RAID controller plugs into a connector on the motherboard and holds up to two M.2 NVMe drives.

Table 31 Boot-Optimized RAID Controller

Product ID (PID)	PID Description
UCS-M2-NVRAID	Cisco M.2 NVMe BOOT RAID Controller (HHHL)

STEP 17 SELECT OPERATING SYSTEM AND VALUE-ADDED SOFTWARE

Select

- Operating System (*Table 32*)

NOTE:

- See this link for operating system guidance: https://ucshcltool.cloudapps.cisco.com/public/

Table 32 Operating System

Product ID (PID)	PID Description
Microsoft Windows Server	
MSWS-22-ST16CD	Windows Server 2022 Standard (16 Cores/2 VMs)
MSWS-22-ST16CD-NS	Windows Server 2022 Standard (16 Cores/2 VMs) - No Cisco SVC
MSWS-22-DC16CD	Windows Server 2022 Data Center (16 Cores/Unlimited VMs)
MSWS-22-DC16CD-NS	Windows Server 2022 DC (16 Cores/Unlim VMs) - No Cisco SVC
Red Hat	
RHEL-2S2V-D1A	Red Hat Enterprise Linux (1-2 CPU,1-2 VN); 1-Yr Support Req
RHEL-2S2V-D3A	Red Hat Enterprise Linux (1-2 CPU,1-2 VN); 3-Yr Support Req
RHEL-2S2V-D5A	Red Hat Enterprise Linux (1-2 CPU,1-2 VN); 5-Yr Support Req
RHEL-VDC-2SUV-D1A	RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 1 Yr Supp Req
RHEL-VDC-2SUV-D3A	RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 3 Yr Supp Req
RHEL-VDC-2SUV-D5A	RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 5 Yr Supp Req
Red Hat Ent Linux/ High Avail/ Res Strg/ Scal	
RHEL-2S2V-D1S	Red Hat Enterprise Linux (1-2 CPU,1-2 VN); Prem 1Yr SnS Reqd
RHEL-2S2V-D3S	Red Hat Enterprise Linux (1-2 CPU,1-2 VN); Prem 3Yr SnS Reqd
RHEL-2S-HA-D1S	RHEL High Availability (1-2 CPU); Premium 1-yr SnS Reqd
RHEL-2S-HA-D3S	RHEL High Availability (1-2 CPU); Premium 3-yr SnS Reqd
RHEL-2S-RS-D1S	RHEL Resilent Storage (1-2 CPU); Premium 1-yr SnS Reqd
RHEL-2S-RS-D3S	RHEL Resilent Storage (1-2 CPU); Premium 3-yr SnS Reqd
RHEL-VDC-2SUV-D1S	RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 1 Yr SnS Reqd
RHEL-VDC-2SUV-D3S	RHEL for Virt Datacenters (1-2 CPU, Unlim VN) 3 Yr SnS Reqd

Table 32 Operating System *(continued)*

Product ID (PID)	PID Description
Red Hat SAP	
RHEL-SAP-2S2V-D1S	RHEL for SAP Apps (1-2 CPU, 1-2 VN); Prem 1-Yr SnS Reqd
RHEL-SAP-2S2V-D3S	RHEL for SAP Apps (1-2 CPU, 1-2 VN); Prem 3-Yr SnS Reqd
RHEL-SAPSP-D3S	RHEL SAP Solutions Premium - 3 Years
RHEL-SAPSS-D3S	RHEL SAP Solutions Standard - 3 Years
SUSE	
SLES-2S2V-D1A	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); 1-Yr Support Req
SLES-2S2V-D3A	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); 3-Yr Support Req
SLES-2S2V-D5A	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); 5-Yr Support Req
SLES-2SUVM-D1A	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; 1Y Supp Req
SLES-2SUVM-D3A	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; 3Y Supp Req
SLES-2SUVM-D5A	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; 5Y Supp Req
SLES-2S-LP-D1A	SUSE Linux Live Patching Add-on (1-2 CPU); 1yr Support Req
SLES-2S-LP-D3A	SUSE Linux Live Patching Add-on (1-2 CPU); 3yr Support Req
SLES-2S2V-D1S	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); Prio 1-Yr SnS
SLES-2S2V-D3S	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); Prio 3-Yr SnS
SLES-2S2V-D5S	SUSE Linux Enterprise Svr (1-2 CPU,1-2 VM); Prio 5-Yr SnS
SLES-2SUVM-D1S	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; Prio 1Y SnS
SLES-2SUVM-D3S	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; Prio 3Y SnS
SLES-2SUVM-D5S	SUSE Linux Enterprise Svr (1-2 CPU,Unl VM) LP; Prio 5Y SnS
SLES-2S-HA-D1S	SUSE Linux High Availability Ext (1-2 CPU); 1yr SnS
SLES-2S-HA-D3S	SUSE Linux High Availability Ext (1-2 CPU); 3yr SnS
SLES-2S-HA-D5S	SUSE Linux High Availability Ext (1-2 CPU); 5yr SnS
SLES-2S-GC-D1S	SUSE Linux GEO Clustering for HA (1-2 CPU); 1yr Sns
SLES-2S-GC-D3S	SUSE Linux GEO Clustering for HA (1-2 CPU); 3yr SnS
SLES-2S-GC-D5S	SUSE Linux GEO Clustering for HA (1-2 CPU); 5yr SnS
SLES-2S-LP-D1S	SUSE Linux Live Patching Add-on (1-2 CPU); 1yr SnS Required
SLES-2S-LP-D3S	SUSE Linux Live Patching Add-on (1-2 CPU); 3yr SnS Required
SLES and SAP	

Table 32 Operating System *(continued)*

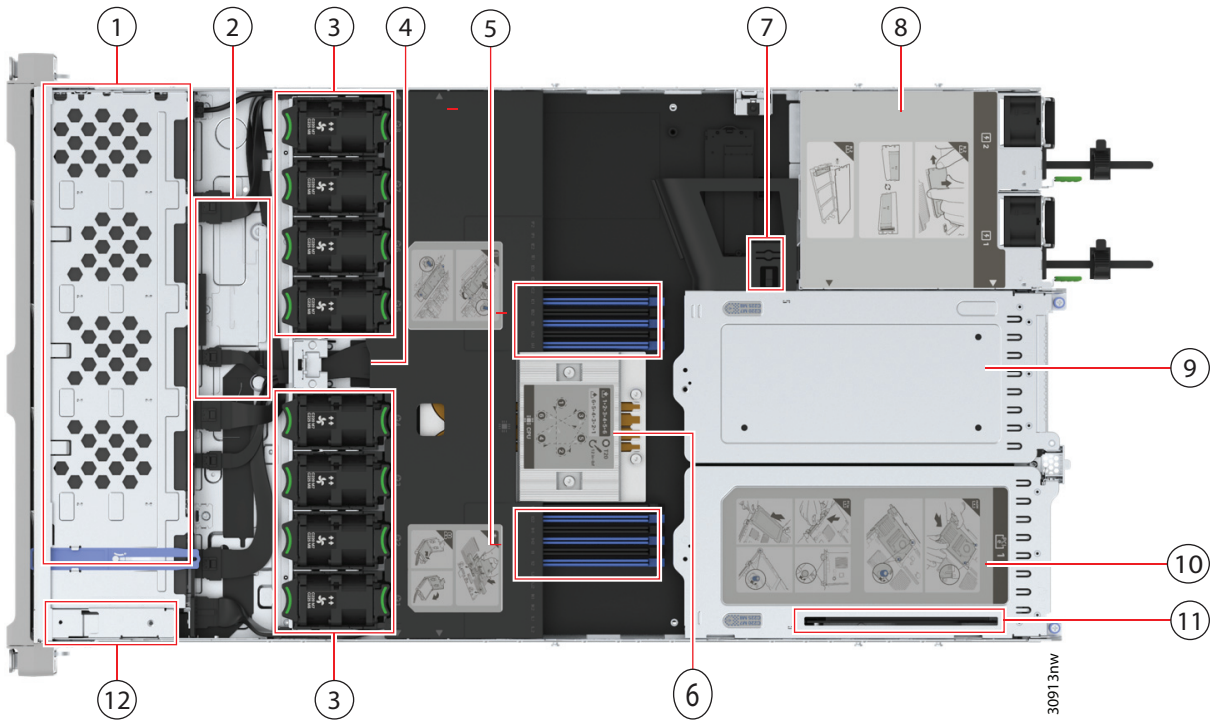
Product ID (PID)	PID Description
SLES-SAP-2S2V-D1S	SLES for SAP Apps (1-2 CPU, 1-2 VM); Priority 1-Yr SnS
SLES-SAP-2S2V-D3S	SLES for SAP Apps (1-2 CPU, 1-2 VM); Priority 3-Yr SnS
SLES-SAP-2S2V-D5S	SLES for SAP Apps (1-2 CPU, 1-2 VM); Priority 5-Yr SnS
SLES-SAP2SUVM-D1S	SLES for SAP Apps (1-2 CPU, Unl VM) LP; Priority 1Y SnS
SLES-SAP2SUVM-D3S	SLES for SAP Apps (1-2 CPU, Unl VM) LP; Priority 3Y SnS
SLES-SAP2SUVM-D5S	SLES for SAP Apps (1-2 CPU, Unl VM) LP; Priority 5Y SnS
SLES-SAP-2S2V-D1A	SLES for SAP Apps w/ HA (1-2 CPU, 1-2 VM); 1-Yr Support Reqd
SLES-SAP-2S2V-D3A	SLES for SAP Apps w/ HA (1-2 CPU, 1-2 VM); 3-Yr Support Reqd
SLES-SAP-2S2V-D5A	SLES for SAP Apps w/ HA (1-2 CPU, 1-2 VM); 5-Yr Support Reqd
SLES-SAP2SUVM-D1A	SLES for SAP Apps w/ HA (1-2 CPU, Unl VM) LP; 1Y Supp Reqd
SLES-SAP2SUVM-D3A	SLES for SAP Apps w/ HA (1-2 CPU, Unl VM) LP; 3Y Supp Reqd
SLES-SAP2SUVM-D5A	SLES for SAP Apps w/ HA (1-2 CPU, Unl VM) LP; 5Y Supp Reqd

SUPPLEMENTAL MATERIAL

Chassis

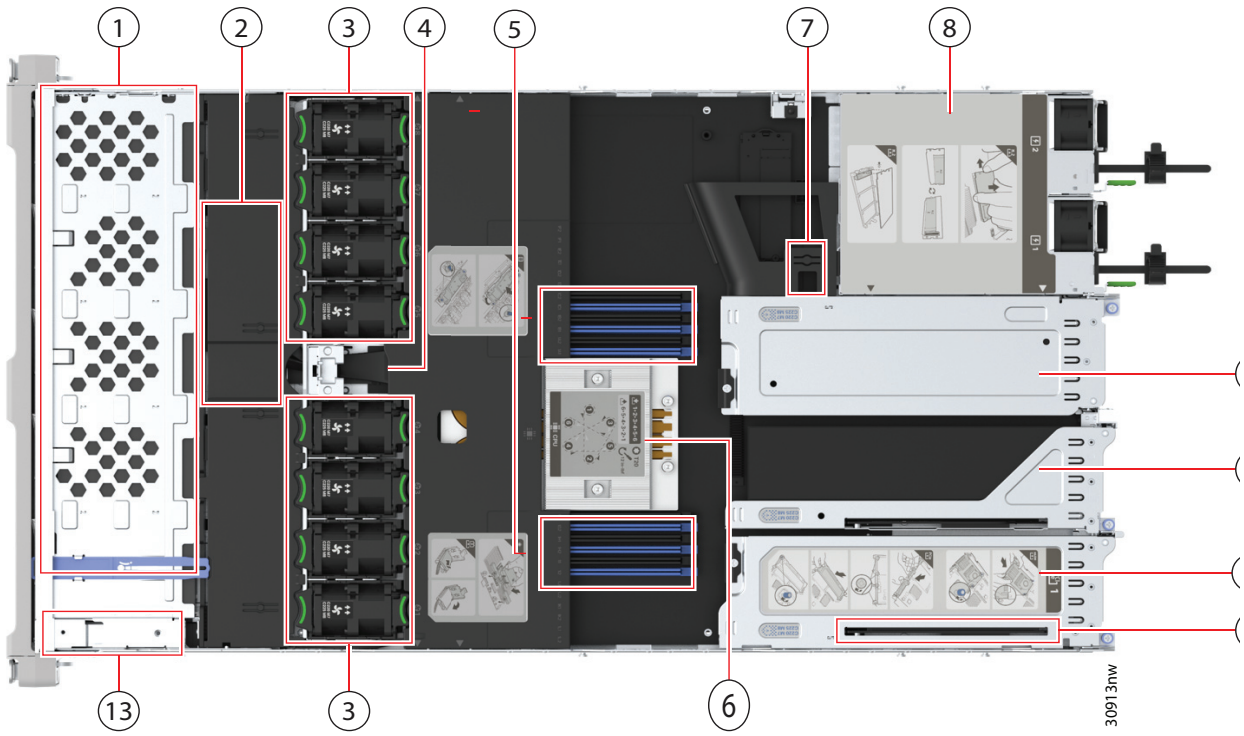
Figure 6 and *Figure 7* shows the Internal views of the C225 M8 chassis with the top cover removed.

Figure 6 C225 M8 SFF With Top Cover Off (full-height, full-width PCIe cards)



1	Front-loading drive bays	2	M8 modular RAID card (or SATA Interposer)
3	Cooling fan modules (eight) Each fan is hot-swappable	4	Supercap module mounting bracket
5	DIMM sockets on motherboard, 12 total.	6	Motherboard CPU socket
7	M.2 module connector, supporting a boot-optimized RAID controller with connectors for up to two SATA M.2 SSDs.	8	Two power supplies
9	PCIe riser 3 Accepts 1 full height, full width PCIe riser card	10	PCIe riser 1 Accepts 1 full height, full width PCIe riser card
11	Modular LOM (mLOM) card bay on chassis floor(x16 PCIe lane) Connector shown, but the card bay sits below PCIe riser 1.	12	Front Panel Controller board

Figure 7 C225 M8 SFF With Top Cover Off (full-height, half-width PCIe cards)

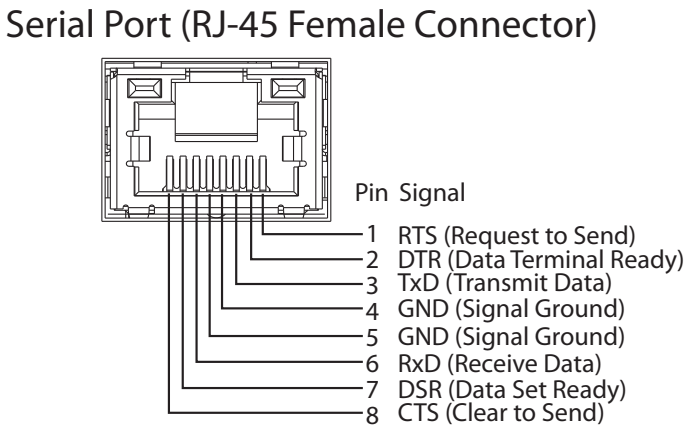


1	Front-loading drive bays	2	M8 modular RAID card (or SATA Interposer)
3	Cooling fan modules (eight) Each fan is hot-swappable	4	Supercap module mounting bracket
5	DIMM sockets on motherboard, 12 total.	6	Motherboard CPU socket
7	M.2 module connector, supporting a boot-optimized RAID controller with connectors for up to two SATA M.2 SSDs.	8	Two power supplies
9	PCIe riser 3 Accepts 1 half height, half width PCIe riser card	10	PCIe riser 2 Accepts 1 half height, half width PCIe riser card
11	PCIe riser 1 Accepts 1 half height, half width PCIe riser card	12	Modular LOM (mLOM)/OCP 3.0 card bay on chassis floor (x16 PCIe lane) Connector shown, but the card bay sits below PCIe riser slot 1.
13	Front Panel Controller board	-	-

Serial Port Details

The pinout details of the rear RJ-45 serial port connector are shown in ***Figure 8***.

Figure 8 Serial Port (Female RJ-45 Connector) Pinout



KVM Cable

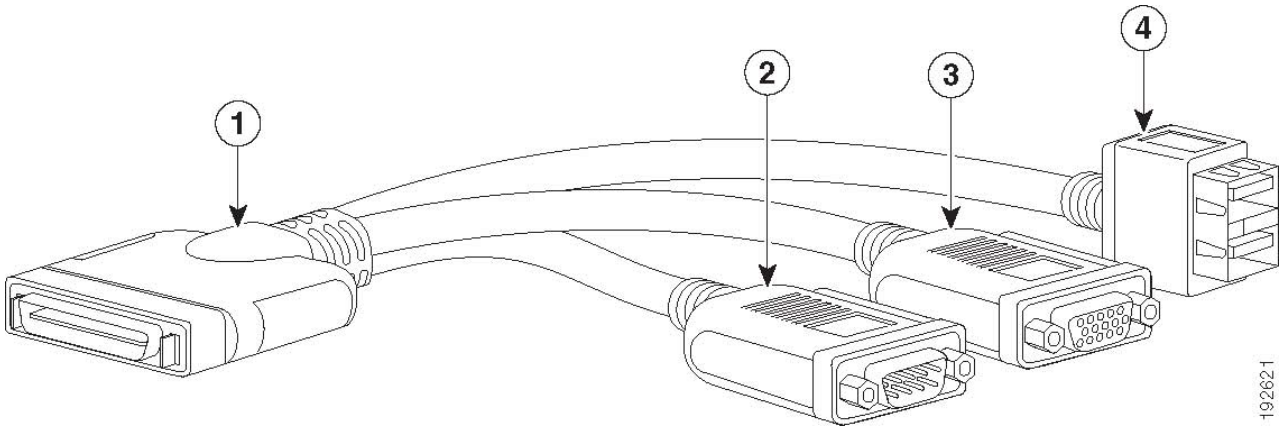
The KVM cable provides a connection into the server, providing a DB9 serial connector, a VGA connector for a monitor, and dual USB ports for a keyboard and mouse. With this cable, you can create a direct connection to the operating system and the BIOS running on the server.

The KVM cable ordering information is listed in *Table 33*.

Table 33 KVM Cable

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

Figure 9 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)

Please refer to “Cisco UCS C225 M8 Server Installation and Service Guide” for installation procedures. See this link:

https://www.cisco.com/content/en/us/td/docs/unified_computing/ucs/c/hw/c225m6/install/c225m6.html

UPGRADING or REPLACING CPU and Memory

- Refer to Cisco UCS C225 M8 Server Installation and Service Guide to upgrading or replacing the CPU
- Refer to Cisco UCS C225 M8 Server Installation and Service Guide to upgrading or replacing the Memory

TECHNICAL SPECIFICATIONS

Dimensions and Weight

Table 34 UCS C225 M8 Dimensions and Weight

Parameter	Value
Height	1.70 in. (4.3 cm)
Width (including slam latches)	16.9 in.(42.9 cm)
Depth	30 in. (76.2 cm)
Weight	
Weight with following options and no rail kit: 1*HDD, 1*CPU(with Heat Sink), 1*DIMM, 1*1600W PSU, mLOM card, 3HH rear wall, 3HH riser cage1, 3HH riser cage2, 3HH riser cage3, Raid tray, BBU module (with holder)	15.05 kgs = 33.18 lbs (3HH SKU)
Weight with following options and no rail kit: 1*HDD, 1*CPU(with Heat Sink), 1*DIMM, 1*1600W PSU, mLOM card, 2FH rear wall, 2FH riser cage1, 2FH riser cage2, Raid tray, BBU module (with holder)	15.1 kgs = 33.29 lbs (2FH SKU)
Weight with following options and including rail kit: 1*HDD, 1*CPU(with Heat Sink), 1*DIMM, 1*1600W PSU, mLOM card, 3HH rear wall, 3HH riser cage1, 3HH riser cage2, 3HH riser cage3, Raid tray, BBU module (with holder)	18.8 kgs = 41.45 lbs (3HH SKU)
Weight with following options and including rail kit: 1*HDD, 1*CPU(with Heat Sink), 1*DIMM, 1*1600W PSU, mLOM card, 2FH rear wall, 2FH riser cage1, 2FH riser cage2, Raid tray, BBU module (with holder),	18.85 kgs = 41.56 lbs (2FH SKU)

Power Specifications

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

- 1050 W V2 (DC) power supply (see *Table 35*).
- 1200 W (AC) power supply (see *Table 36*)
- 1600 W (AC) power supply (see *Table 37*)
- 2300 W (AC) power supply (see *Table 38*)

Table 35 UCS C225 M8 SFF Power Specifications (1050 W V2 DC power supply)

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 36 UCS C225 M8 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 37 UCS C225 M8 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 38 UCS C225 M8 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**

Environmental Specifications

The environmental specifications for Cisco UCS C225 M8 SFF server are listed in *Table 39*.

Table 39 UCS C225 M8 Environmental Specifications

Parameter	Minimum
Operating Temperature	5°C to 35°C (supports ASHRAE Class A4 and/or Class A3 and/or Class A2). ASHRAE Class A3 will be generic test profile unless otherwise specified by product engineering. System shall continue to operate with a single fan failure (one failed impeller in dual impeller housings) across the ASHRAE recommended operating range of 18 °C to 27 °C. While undesired, increased power consumption and/or acoustic noise is permitted during a fan fail event.
Non-Operating Temperature	Dry bulb temperature of -40°C to 65°C (-40°F to 149°F)
Operating Relative Humidity	8% to 90% relative humidity, non-condensing, with maximum wet bulb 28°C (82.4°F) within operational temperature range of 5°C to 50°C (41°F to 122°F)
Non-Operating Relative Humidity	5% to 93% relative humidity, non-condensing, with a maximum wet bulb temperature of 28°C across the 20°C to 40°C dry bulb range.
Maximum Operating Duration	Unlimited
Operating Altitude	A maximum elevation of 3050 meters (10,006 ft)
Non-Operating Altitude	An elevation of 0 to 12,000 meters (39,370 ft)
Sound Power level, Measure A-weighted per ISO7779 LWAd (Bels) Operation at 23°C (73°F)	2RU: 5.8B Racked product: 6.8B
Sound Pressure level, Measure A-weighted per ISO7779 LpAm (dBA) Operation at 23°C (73°F)	2RU: 43dB Racked product: 55dB

Compliance Requirements

The regulatory compliance requirements for C-Series servers are listed in *Table 40*

Table 40 UCS C-Series 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 CAN/CSA-C22.2 No. 60950-1/62368-1 IEC/EN 60950-1/62368-1 AS/NZS 62368.1 GB 4943.1-2022 CNS 15598-1:2020
EMC - Emissions	47CFR Part 15 (CFR 47) Class A AS/NZS CISPR32 Class A CISPR32 Class A EN55032 Class A ICES003 Class A VCCI-CISPR32 Class A EN61000-3-2 EN61000-3-3 KS C 9832 Class A EN 300386 Class A
EMC - Immunity	EN55035 EN55024 CISPR24/35 EN300386 KS C 9835 IEC/EN61000-6-1