



Cisco UCS C240 M4 High-Density Rack Server (Small Form Factor Disk Drive Model)

CONTENTS

DETAILED VIEWS

- Storage controller
- Embedded Software RAID (6 Gbps)
 - Embedded SATA-only RAID controller, supporting up to 8 SATA-only drives (RAID 0, 1), or
 -

- Storage controller
- Cisco 12 Gbps Modular SAS HBA with internal SAS connectivity
 - Supports up to 24 internal drives
 - Is compatible with all backplane versions (8-, 16-, and 24-drive backplanes)

- Select the memory mirroring option (N01-MMIRROR) as shown in [Table 6 on page 22](#).

NOTE: System performance is optimized when the DIMM type and quantity are equal for both CPUs, and when all channels are filled equally across the CPUs in the server.

Caveats

Table 8 2400-MHz DIMM Memory Speeds with Different v4 CPUs

| DIMM and CPU Frequencies | DPC | LRDIMM (QRx4) - 64 GB ¹ |
|-----------------------------|-----|--|
| | | 1.2 V |

As a consequence, faster DIMMs will be operated at timings supported by the slowest DIMM populated.

- When one DIMM is used, it must be populated in DIMM slot 1 (farthest away from the

- One Cisco 9300-8E 12G SAS HBA (JBOD support only for external drives) from

For the Cisco 12G SAS modular RAID controller upgrade, select an appropriate optional RAID configuration listed in [Table 10 on page 30](#)

NOTE: The Cisco 12G SAS modular RAID controller can be ordered with or without an optional FBWC (cache).

| | | | | | | | | |
|----------------------------|---|-------------|-----------------------------------|-----------------------------------|------------------------|------------|--|--------------|
| C240 M4 SFF 8 HDD | 1 | Enabled | Not allowed | Not allowed | Not allowed | 8 internal | 0, 1, 10 (default) or 0, 1, 10, 5 (RAID 5 key upgrade) | SATA HDDs |
| C240 M4 SFF 8 HDD | 1 | Not allowed | Installed in dedicated slot | Installed in dedicated slot | Card absent/allowed | | | |

Table 19 PCIe Card Compatibility

| PCIe Cards |
|------------|
|------------|

Figure 8 Network Card Connections

Select GPU Power Cables

Whenever you select a K1/K2/K10/K20/K20X/K40 GPU for this server, you must also select one power cable for each GPU selected. The available GPU power cables are listed in

STEP 11 SELECT AC POWER CORD(S)

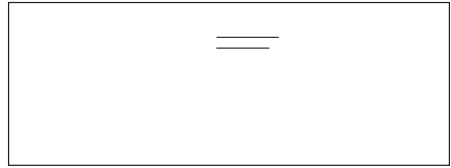
Using [Table 24](#), select the appropriate AC power cords. You can select a minimum of no power cords and a maximum of two. If you select the option R2XX-DMYMPWRCORD, no power cord is shipped with the server.

Table 24 Available Power Cords

| Product ID (PID) | PID Description | Images |
|------------------|---|----------------|
| R2XX-DMYMPWRCORD | No power cord (dummy PID to allow for a no power cord option) | Not applicable |
| CAB-N5K6A-NA | Power Cord, 200/240V 6A, North | |

CAB-250V-10A-AR

Power Cord, 250V, 10A, Argentina



STEP 15 ORDER CISCO FLEXIBLE FLASH SD CARD MODULE (OPTIONAL)

Order 64 GB SD cards or 32 GB SD cards. See [Figure 9 on page 73](#) for the location of the SD cards. There are two locations, SD1 and SD2.

Table 29 64 GB Secure Digital (SD) Card (blank)

| Product ID (PID) | PID Description |
|------------------|-------------------------------|
| UCS-SD-64G-S | 64 GB SD Card for UCS Servers |

Table 30 32 GB Secure Digital (SD) Card (blank)

| Product ID (PID) | PID Description |
|------------------|-------------------------------|
| UCS-SD-32G-S | 32 GB SD Card for UCS Servers |

STEP 17 SELECT OPERATING SYSTEM AND VALUE-ADDED SOFTWARE

Several operating systems and value-added software programs are available. Select as desired from [Table 32](#).

Table 32 OSs and Value-Added Software (for 2-CPU servers)

| PID | Description | Product ID (PID) |
|---------------------------------|-------------|---|
| Cisco One | | |
| C1F2PUCSK9 | | Cisco ONE Foundation Perpetual UCS |
| C1F2SICFBK9 | | Cisco ONE Foundation Subsr Intercloud Fabric For Business |
| C1A1PUCSK9 | | Cisco ONE Enterprise Cloud Perpetual UCS |
| C1UCS-OPT-OUT | | Cisco One Data Center Compute Opt Out OptionÆ |
| Microsoft Windows Server | | |
| MSWS-12-ST2S | | |

STEP 18 SELECT OPERATING SYSTEM MEDIA KIT

STEP 19

See

Table 39 Drive Retention Service Options

| Service Description | Service Program Name | Service Level GSP | Service Level | Product ID (PID) |
|---|----------------------|-------------------|----------------|--------------------|
| SMARTnet for UCS Service with Drive Retention | UCS DR | UCSD7 | 24x7x4 Onsite | CON-UCSD7-C240M4SF |
| | | UCSD5 | 8x5xNBD Onsite | CON-UCSD5-C240M4SF |
| SMARTnet for UCS HW ONLY+Drive Retention | UCS HW+DR | UCWD7 | 24x7x4 Onsite | CON-UCWD7-C240M4SF |
| | | UCWD5 | 8x5xNBD Onsite | CON-UCWD5-C240M4SF |

For more service and support information, see the following URL:

http://www.cisco.com/en/US/services/ps2961/ps10312/Unified_Computing_Services_Overview.pdf

For a complete listing of available services for Cisco Unified Computing System, see this URL:

http://www.cisco.com/en/US/products/ps10312/serv_group_home.html

Memory Population Rules

When considering the memory configuration of your server, consider the following items:

- Each channel has three DIMM slots (for example, channel A = slots A1, A2, and A3).
 - A channel can operate with one, two, or three DIMMs installed.
 - If a channel has only one DIMM, populate slot 1 first (the blue slot).
- When both CPUs are installed, populate the DIMM slots of each CPU identically.
 - Fill blue slots in the channels first: A1, E1, B1, F1, C1, G1, D1, H1
 - Fill black slots in the channels second: A2, E2, B2, F2, C2, G2, D2, H2
 - Fill white slots in the channels third: A3, E3, B3, F3, C3, G3, D3, H3
- Any DIMM installed in a DIMM socket for which the CPU is absent is not recognized.
- Observe the DIMM mixing rules shown in [Table 42](#)

Recommended Memory Configuration

Additional DIMM Populations

The list in *Table 45* is not a complete list of all supported DIMM populations, but highlights common configuration options.

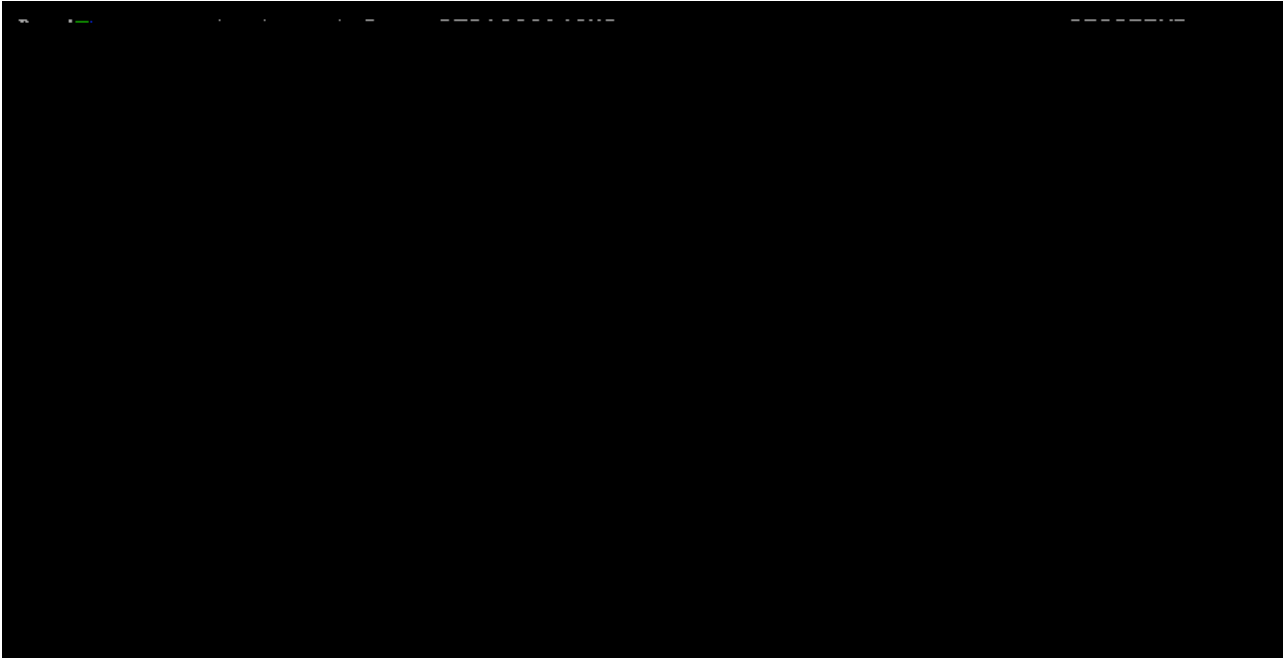
Table 45 Supported DIMM Configurations



RAID Details

(2) Press Ctrl+M to start the RAID group creation process for the primary SATA controller (for drives 1-4, as shown in [Figure 13 on page 85](#)). Or, do nothing and wait for the next screen, which allows you to create a RAID group for the secondary SATA (sSATA) controller see [Figure 16](#)).

Figure 16 Screen to Configure Secondary SATA (sSATA) RAID Group



(3) Press Ctrl+M to start the RAID group creation process for the secondary SATA (sSATA) controller (for drives 5-8, as shown in [Figure 13 on page 85](#)).

Serial Port Details

The pinout details of the rear RJ-45 serial port connector are shown in *Figure 17*.

Upgrade and Servicing-Related Parts

Adding an Additional CPU (with CPU heat sink) or Replacing CPUs

All Cisco UCS two CPU socket-capable servers can be upgraded from having one to having two CPUs configured or can also support replacement of the CPUs. You will need to order and install a heat sink when adding any additional CPU to a server. Instructions for installing the new CPU or replacing CPUs and heat sink can be found at the following link:

http://www.cisco.com/c/en/us/td/docs/unified_computing/ucs/c/hw/C240M4/install/C240M4.html

NOTE: Unlike previous generation servers, the C240 M4 has tool-less CPU sockets, so

PDU

Cisco RP Series Power Distribution Units (PDUs) offer power distribution with branch circuit protection.

Cisco RP Series PDU models distribute power to up to 24 outlets. The architecture organizes power distribution, simplifies cable management, and enables you to move, add, and change rack equipment without an electrician.

With a Cisco RP Series PDU in the rack, you can replace up to two dozen input power cords with just one.

Power Specifications

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

- 650 W (AC)
- 930 W (DC)
- 1200 W (AC)
- 1400 W (AC)

The general power specifications for the C240 M4 SFF server are listed as follows:

- 650 W (AC) power supply (see [Table 52](#)).
- 930 W (DC) power supply (see [Table 53](#)).
- 930 W V2 (DC) power supply (see [Table 54](#))
- 1200 W V2 (AC) power supply (see [Table 55 on page 100](#))
- 1400 W V2 (AC) power supply (see [Table 56 on page 101](#))

Table 52 UCS C240 M4 SFF Power Specifications (650 W AC power supply)

| Description | Specification |
|--|---|
| AC input voltage range | Voltage Range 100-127 VAC, 200-240 VAC nominal (range: 90-140 VAC, 180-264 VAC) |
| AC input frequency | 50 to 60 Hz nominal (range: 47 to 63 Hz) |
| Maximum AC input current | 7.6 Amps maximum at 100 VAC 3.65 Amps maximum at 208 VAC |
| Maximum Input VA | 760 VA at 100 VAC |
| Maximum output power for each power supply | 650 W |
| Maximum AC inrush current | 35 A (sub cycle duration) |
| Maximum hold up time | 12 ms @ 650 W |
| Power supply output voltage | 12 VDC |
| Power supply standby voltage | 12 VDC |
| Power supply efficiency | Climate Savers Platinum Efficiency (80Plus Platinum Certified) |
| Form factor | RSP1 |
| Input connector | IEC320 C14 |

