

Dell EMC PowerEdge MX840c

Technical Specifications

Notes, cautions, and warnings

 **NOTE:** A NOTE indicates important information that helps you make better use of your product.

 **CAUTION:** A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.


 **WARNING:** A WARNING indicates a potential for property damage, personal injury, or death.

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Dell EMC PowerEdge MX840c overview

The PowerEdge MX840c is a double-width compute sled and supports:

- Up to four Intel Xeon Scalable Processors
- Up to 48 DIMM slots
- Up to eight 2.5 inch SAS, SATA (HDD/SSD), or NVMe drives

 **NOTE:** All instances of SAS, SATA, NVMe hard drives, and SSDs are referred to as drives in this document, unless specified otherwise.

Topics:

- [Front view of the sled](#)
- [Inside the sled](#)
- [Locating the Service Tag of the sled](#)
- [System information label](#)

Front view of the sled

The front view displays the features available on the front of the sled.

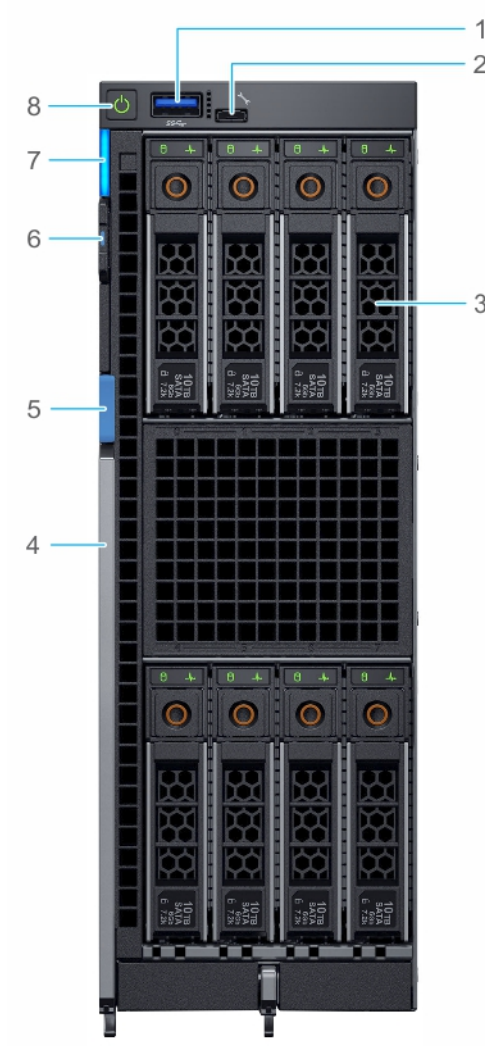


Figure 1. Front view of the sled

- 1. USB 3.0 port
- 2. iDRAC Direct (Micro-AB USB) port
- 3. Drives
- 4. Release lever
- 5. Lever button
- 6. Information tag
- 7. System ID and status LED indicator
- 8. Power button

For more information on the drives and ports, see the [Technical Specifications](#) section.

System ID and status LED indicator codes

The system ID indicator is located on the control panel of your sled.



Figure 2. System ID and status LED indicators

Table 1. System ID and status LED indicator codes

System ID indicator code	Condition
Off	Indicates system is in the off state.
Blinking amber or steady amber	Indicates system fault or error condition.
Steady blue	Indicates normal operating state.
Blinking blue	Indicates system ID engaged. Blink rate is 1 Hz.

Power button LED

The power button LED is located on the front panel of your sled.



Figure 3. Power button LED

Table 2. Power button LED

Power button LED indicator code	Condition
Off	Sled is not operating, regardless of power supply available.
On	Sled is operating, one or more of the non-standby power supplies are active.
Slowly blinking	Sled is performing powering on sequence and iDRAC is still booting.

Drive indicator codes

Each drive carrier has an activity LED indicator and a status LED indicator. The indicators provide information about the current status of the drive. The activity LED indicator indicates whether the drive is currently in use or not. The status LED indicator indicates the power condition of the drive.



Figure 4. Drive indicators

1. Drive activity LED indicator
2. Drive status LED indicator
3. Drive capacity

NOTE: If the drive is in the Advanced Host Controller Interface (AHCI) mode, the status LED indicator does not turn on.

Table 3. Drive indicator codes

Drive status indicator code	Condition
Flashes green twice per second	Identifying drive or preparing for removal.
Off	Drive ready for removal. NOTE: The drive status indicator remains off until all drives are initialized after the system is turned on. Drives are not ready for removal during this time.
Flashes green, amber, and then turns off	Predicted drive failure.
Flashes amber four times per second	Drive failed.
Flashes green slowly	Drive rebuilding.
Solid green	Drive online.
Flashes green for three seconds, amber for three seconds, and then turns off after six seconds	Rebuild stopped.

Inside the sled

NOTE: Components that are hot swappable have orange touch points and the components that are not hot swappable have blue touch points.

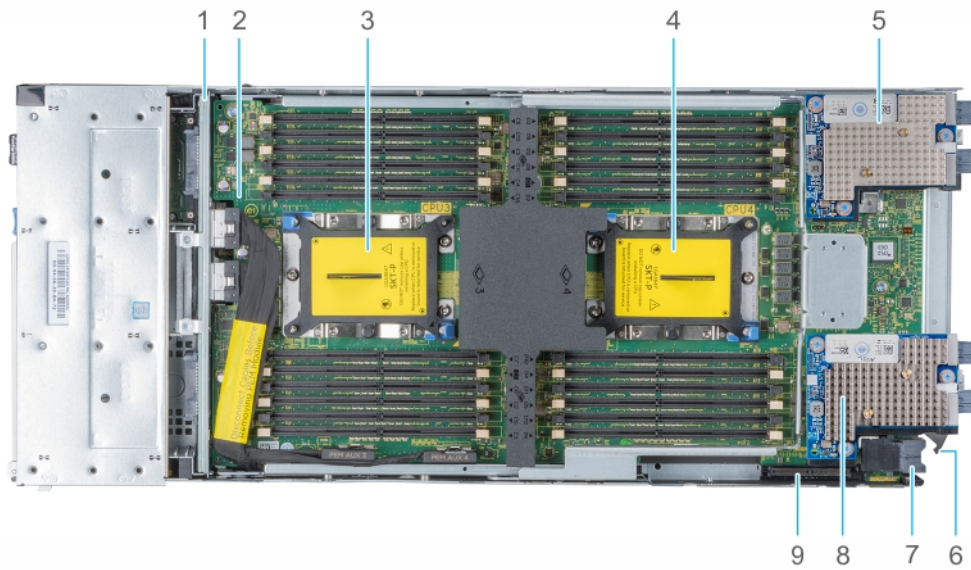


Figure 5. Inside the sled with PEM

- | | |
|---|---|
| 1. Backplane | 2. Processor expansion module (PEM) board |
| 3. Processor 3 socket | 4. Processor 4 socket |
| 5. Mezzanine card (Fabric A2 card) | 6. Rotational guiding hook |
| 7. Power connector | 8. Mezzanine card (Fabric B2 card) |
| 9. Mini Mezzanine card (Fabric C2 card) connector | |

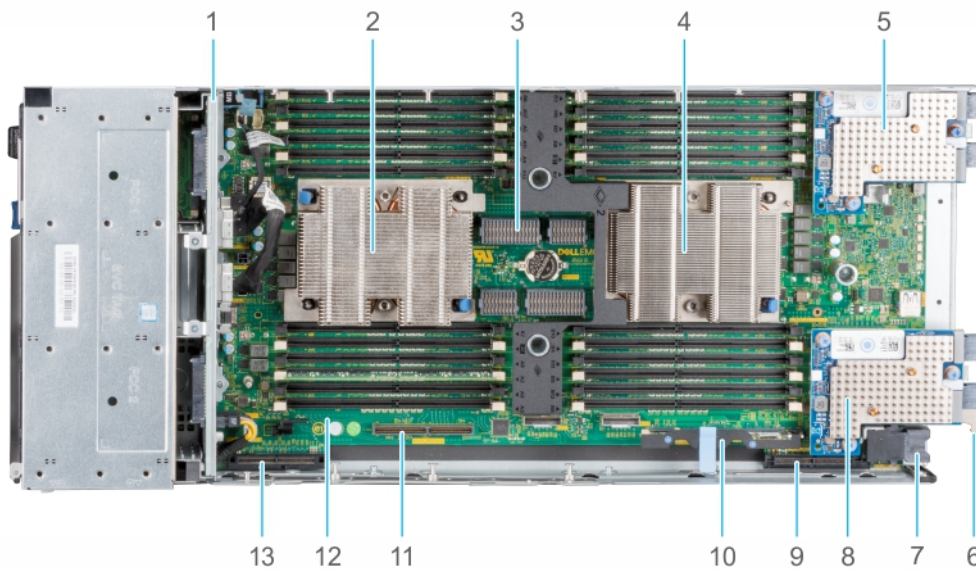


Figure 6. Inside the sled with system board

- | | |
|---|------------------------------------|
| 1. Backplane | 2. Processor 1 socket |
| 3. PEM connector | 4. Processor 2 socket |
| 5. Mezzanine card (Fabric A1 card) | 6. Rotational guiding hook |
| 7. Power connector | 8. Mezzanine card (Fabric B1 card) |
| 9. Mini Mezzanine card (Fabric C1 card) connector | 10. iDRAC card |
| 11. IDSDM/BOSS module connector | 12. System board |
| 13. PERC card connector | |

Locating the Service Tag of the sled

The PowerEdge MX840c sled is identified by a unique Express Service Code and Service Tag number. The Express Service Code and Service Tag are found on the front of the enclosure by pulling out the Information Tag. Dell uses this information to route support calls to the appropriate personnel.

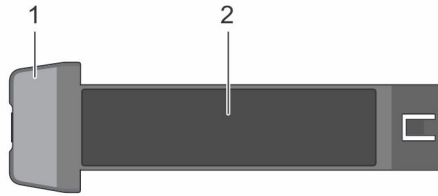


Figure 7. Information Tag of the sled

1. Information Tag
2. Service Tag

System information label

Service Information

System Touchpoints

- Hot swap touchpoints: Components with terracotta touchpoints can be serviced while the system is running.
- Cold swap touchpoints: Components with blue touchpoints require a full system shutdown before servicing.

Mechanical Overview

Front View

EST Power iDRAC Direct USB Hard Drives (Micro-AB USB)

0 1 2 3

4 5 6 7

Lever Button 2.5" x 8 Hot Swap HDD

System ID Status Light Bar

BBU + 2.5" x 6 Hot Swap HDD

Rear View

Mini Mezz Power Supplies

Electrical Overview

PEM Connections

1 MEZZ_A2	7 CPU3
2 MEZZ_B2	8 DIMMs For CPU4
3 MINI_MEZZ_C2	9 DIMMs For CPU4
4 AUX4	10 CPU4
5 AUX3	11 DIMMs For CPU4
6 DIMMs For CPU3	

Scan to see hardware servicing and software setup videos, how-to's, and documentation.

Quick Resource Locator
Dell.com/QRL/Server/PEM840c

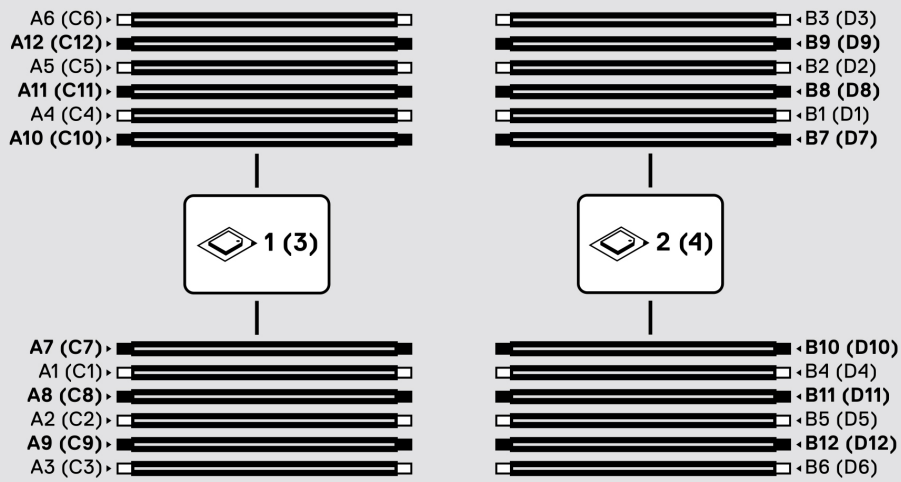
Icon Legend

	EST Express Service Tag

Figure 8. PowerEdge MX840c service information

Memory Information

⚠ Caution: Memory (DIMMs) and CPUs may be hot during servicing.



Memory Population

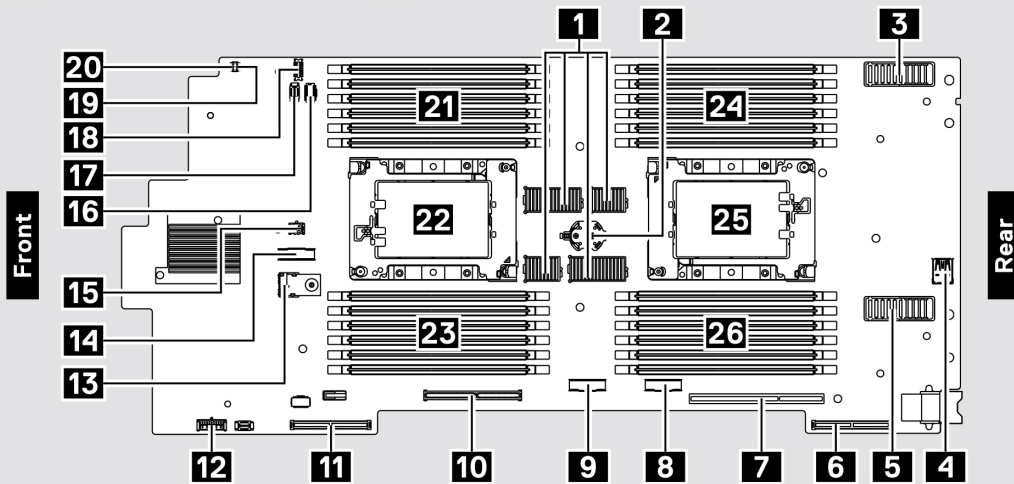
Configuration	Sequence
Optimized	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Mirroring	(1, 2, 3, 4, 5, 6), (7, 8, 9, 10, 11, 12)

Memory Sparring details are documented in the *Installation and Service Manual*.

Figure 9. PowerEdge MX840c memory information

System Board Connections

- | | | |
|-------------------------------|----------------------------|--------------------------|
| 1 4 UPI Connector (4S) | 10 BOSS (M.2)/IDSDM | 19 NVRAM_CLR |
| 2 Battery | 11 PERC | 20 PWRD_EN |
| 3 MEZZ_A1 | 12 Backplane Power | 21 DIMMs For CPU1 |
| 4 Internal USB | 13 TPM | 22 CPU1 |
| 5 MEZZ_B1 | 14 SATA | 23 DIMMs For CPU1 |
| 6 MINI_MEZZ_C1 | 15 BBU Power | 24 DIMMs For CPU2 |
| 7 iDRAC Module | 16 BBU Signal | 25 CPU2 |
| 8 AUX1 | 17 Backplane Signal | 26 DIMMs For CPU2 |
| 9 AUX2 | 18 FIO | |



Jumper Settings


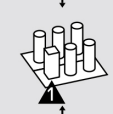




Jumper	Setting	Description
PWRD_EN	 (default)	BIOS password is enabled.
		BIOS password is disabled. iDRAC local access is unlocked at next BMC reboot. iDRAC password reset is enabled in F2 iDRAC settings menu.
	 (default)	BIOS configuration settings retained at system boot.
		BIOS configuration settings cleared at system boot.

Figure 10. PowerEdge MX840c system board connections

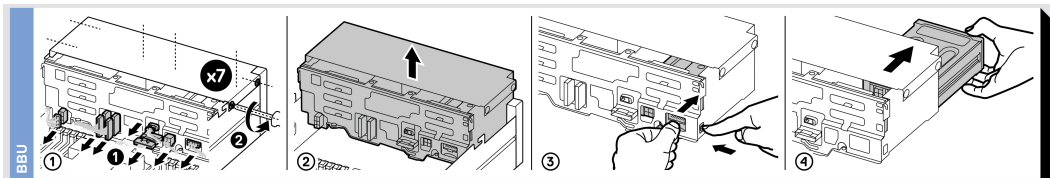


Figure 11. PowerEdge MX840c BBU module

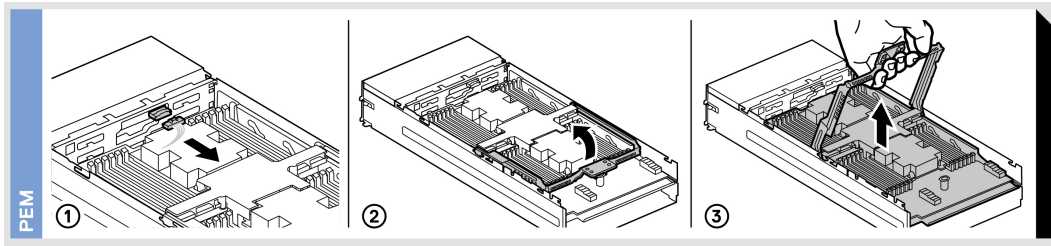


Figure 12. PowerEdge MX840c PEM removal

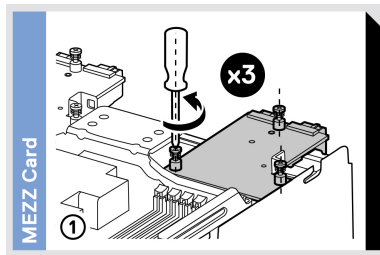


Figure 13. PowerEdge MX840c mezzanine cards removal

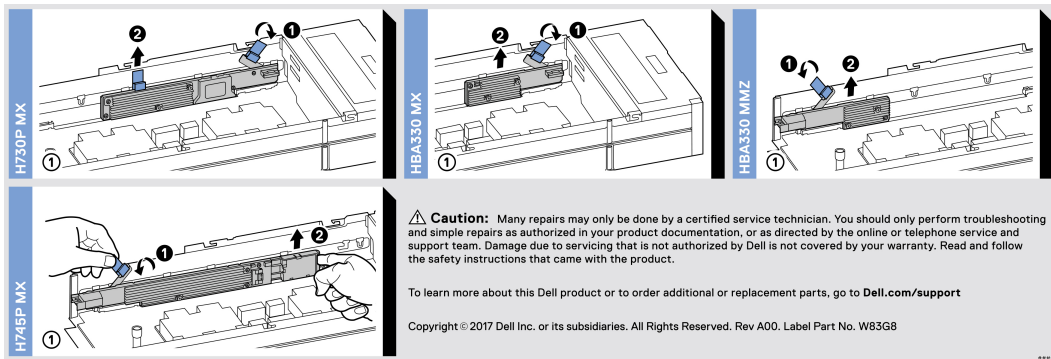


Figure 14. PowerEdge MX840c PERC cards removal

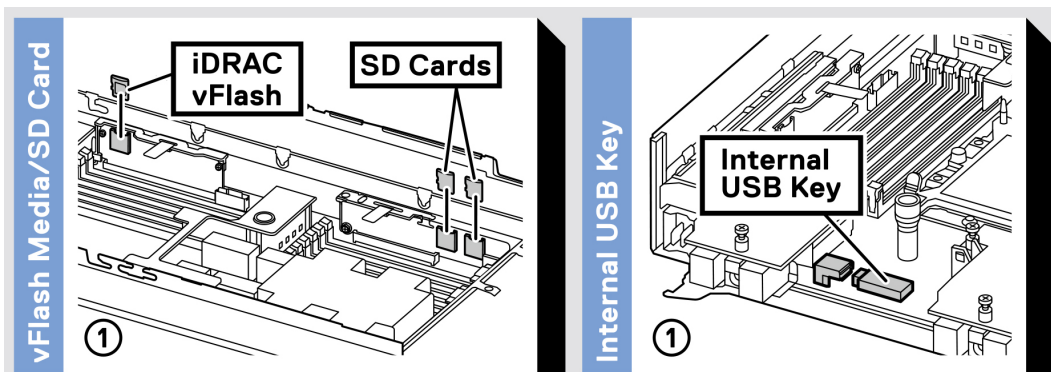


Figure 15. PowerEdge MX840c iDRAC/iSDSM module and optional internal USB key removal

Technical specifications

The technical and environmental specifications of your sled are outlined in this section.

Topics:

- Sled dimensions
- Chassis weight
- Processor specifications
- Supported operating systems
- System battery specifications
- Memory specifications
- Drives
- Ports and connectors specifications
- Environmental specifications

Sled dimensions

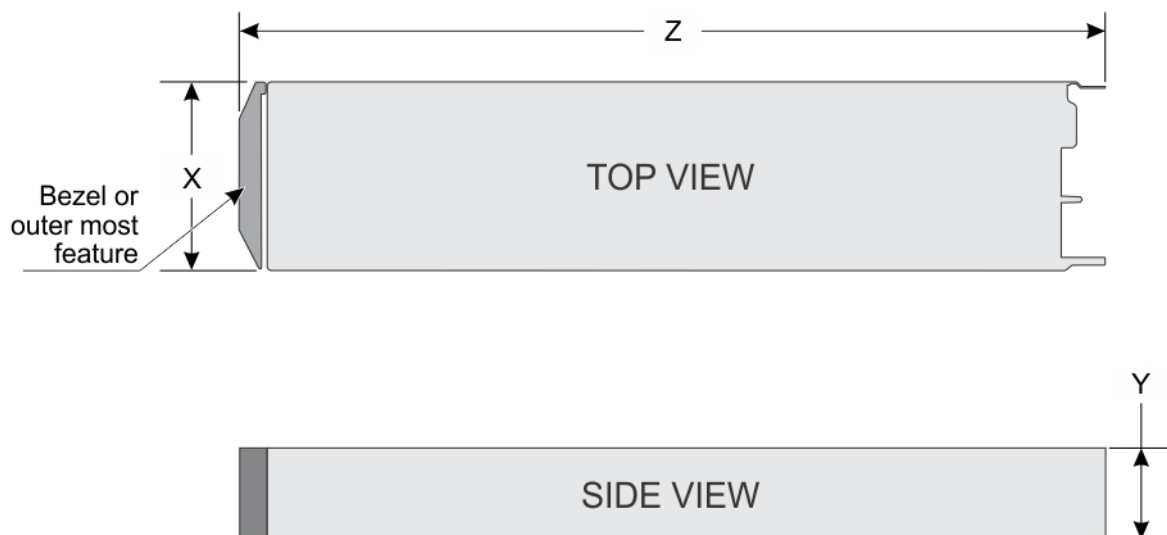


Figure 16. Dimensions of the PowerEdge MX840c sled

Table 4. Dimensions of the PowerEdge MX840c sled

X	Y	Z (handle closed)
250.2 mm (9.85 inches)	85.5 mm (3.37 inches)	618 mm (24.33 inches)

Chassis weight

Table 5. Chassis weight

Sled	Maximum weight (with all drives/SSDs)
8 x 2.5 inch	17 kg (37.47 lb)
6 x 2.5 inch	16.8 kg (37.04 lb)

Processor specifications

The PowerEdge MX840c sled supports up to four Intel Xeon Scalable Processors.

Intel Quick Assist Technology

The Intel® Quick Assist Technology (QAT) on the Dell EMC PowerEdge MX840c is supported with chipset integration and is enabled through an optional license. The license files are enabled on the sleds through iDRAC.

For more information about iDRAC, see the *Dell Integrated Remote Access Controller User's Guide* at www.dell.com/poweredgemanuals

For more information about drivers, documentation, and white papers on the Intel® QAT, see <https://01.org/intel-quickassist-technology>

Supported operating systems

The PowerEdge MX840c supports the following operating systems:

Red Hat® Enterprise Linux

SUSE® Linux Enterprise Server

Canonical® Ubuntu® LTS

Microsoft Windows Server® with Hyper-V

Virtualization options:

VMware® ESXi

Citrix® XenServer®

i | **NOTE:** For more information about the specific versions and additions, go to <https://www.dell.com/ossupport>.

System battery specifications

The PowerEdge MX840c sled supports CR 2032 3.0-V Nickel-Plated lithium coin cell system battery.

Memory specifications

The Dell EMC PowerEdge MX840c system supports the following memory specifications for optimized operation.

Table 6. Memory specifications

DIMM type	DIMM rank	DIMM capacity	Dual processors		Quad processors	
			Minimum RAM	Maximum RAM	Minimum RAM	Maximum RAM
LRDIMM	Octa rank	128 GB	256 GB	3 TB	512 GB	6 TB
	Quad rank	64 GB	128 GB	1.5 TB	256 GB	3 TB
RDIMM	Single rank	8 GB	16 GB	192 GB	32 GB	384 GB
	Dual rank	16 GB	32 GB	384 GB	64 GB	768 GB
	Dual rank	32 GB	64 GB	768 GB	128 GB	1.5 TB
	Dual rank	64 GB	64 GB	768 GB	128 GB	1.5 TB
NVDIMM -N	Single rank	16 GB	16 GB	192 GB	Supported on the system board only (No NVDIMM-N on PEM)	

Table 6. Memory specifications (continued)

DIMM type	DIMM rank	DIMM capacity	Dual processors		Quad processors	
			Minimum RAM	Maximum RAM	Minimum RAM	Maximum RAM
DCPMM	NA	128 GB	RDIMM: 384 GB	LRDIMM: 1536 GB	RDIMM: 384 GB	LRDIMM: 3072 GB
			DCPMM: 1536 GB	DCPMM: 1536 GB	DCPMM: 248 GB	DCPMM: 3072 GB
	NA	256 GB	RDIMM: 192 GB	LRDIMM: 1536 GB	RDIMM: 384 GB	LRDIMM: 3072 GB
			DCPMM: 2048 GB	DCPMM: 3072 GB	DCPMM: 4096 GB	DCPMM: 6144 GB
	NA	512 GB	RDIMM: 384 GB	LRDIMM: 1536 GB	RDIMM: 768 GB	LRDIMM: 3072 GB
			DCPMM: 4096 GB	DCPMM: 6144 GB	DCPMM: 8192 GB	DCPMM: 12,288 GB

Table 7. Memory module sockets

Memory module sockets	Speed
Sixteen 288-pin	2933 MT/s, 2666 MT/s

- NOTE:** 8 GB RDIMMs and NVDIMM-N must not be mixed.
- NOTE:** 64 GB LRDIMMs and 128 GB LRDIMMs must not be mixed.
- NOTE:** Minimum of two processors are required for any configurations that support NVDIMM-N.
- NOTE:** DCPMM can be mixed with RDIMMs and LRDIMMs.
- NOTE:** Mix of Intel DCPMM operating modes (App Direct, Memory Mode) is not supported within socket or across sockets.

Drives

Table 8. Supported drive options for the PowerEdge MX840c sled

Drives	Specifications
Eight drives	Up to eight 2.5 inch (SAS, SATA, Nearline SAS, or NVMe) front accessible drives in slots 0 to 7.
Dual processor sled	NVMe drives are supported in the slots 4 to 7. NOTE: NVMe is not supported in the slots 0 to 3.
Quad processor sled	NVMe drives are supported in the slots 0 to 7.
Six drives	Up to six 2.5 inch (SAS, SATA, Nearline SAS, or NVMe) front accessible drives in slots 0 to 5.
Dual processor sled	NVMe drives are supported in the slots 2 to 5. NOTE: NVMe is not supported in the slots 0 to 1.
Quad processor sled	NVMe drives are supported in the slots 0 to 5.

Ports and connectors specifications

USB ports

The PowerEdge MX840c sled supports:

- One USB 3.0-compliant port on the front of the sled
- One USB 3.0-compliant port internal port
- One USB 2.0-compliant management port to iDRAC on the front of the sled
- One port for IDSDM (USB 3.0 + USB 2.0 for Cypress solution)

Internal Dual SD Module

The PowerEdge MX840c sled supports optional Internal Dual SD module (IDSDM). The IDSDM module is placed in the front of the sled, in a Dell-proprietary slot. The IDSDM module supports two MicroSD cards. The MicroSD cards capacity for IDSDM are 16, 32, 64 GB.

The IDSDM module is available with single MicroSD card in either slot or in redundant mode with two MicroSD cards installed.

NOTE: The dip switch is on the IDSDM module for write-protection.

NOTE: One IDSDM card slot is dedicated for redundancy.

NOTE: It is recommended to use Dell branded MicroSD cards associated with the IDSDM configured systems.

PERC controller cards

The PowerEdge MX840c sled supports PERC9/10 solutions. The PERC provides a base RAID hardware controller without a PCIe slot by using small form factor and high density connector to the system board.

Table 9. Supported PERC controllers

Performance Level	Controller and Description
Entry	S140 (SATA, NVMe)
	SW RAID SATA
Value	HBA330 (non-RAID Internal)
	Fury IOC
	Memory: None
	x8 12 Gb/s SAS
	x8 PCIe 3.0/2.0
	HBA330 MX(non-RAID External)
	Memory: None
	x8 12 Gb/s SAS
	x8 PCIe 3.0
	HBA330 Mini-Mezzanine (non-RAID Internal)
	Memory: None
	x8 12 Gb/s SAS
PCIe 3.0	
Value Performance	H730P (Internal)

Table 9. Supported PERC controllers (continued)

Performance Level	Controller and Description
	Invader ROC
	Memory: 2 GB, NV 72-bit, 866MHz
	x8 12 Gb SAS, 6 Gb/s SATA
	x8 PCIe 3.0/2.0
	H745P (Internal)
	Memory: 8 GB
	x8 12 Gb SAS
	x8 PCIe 3.0/2.0
	H730P MX (External)
	Memory: 8 GB
	x8 12 Gb SAS, 6 Gb/s SATA/SAS, 3 Gb/s SATA
	x8 PCIe 3.0
	H745P MX (External)
	Memory: 8 GB
	12 Gb/s SAS, 6 Gb/s SATA/SAS, 3 Gb/s SATA
x8 PCIe 3.0	

Mezzanine cards

The PowerEdge MX840c sled supports:

Table 10. Supported mezzanine cards

Type	Connection
Two x16 PCIe Gen3 for mini mezzanine cards	Connected to processor 2 and processor 4
Four x16 PCIe Gen3 for mezzanine cards	Mezzanine A is connected to processor 1 and processor 3
	Mezzanine B is connected to processor 2 and processor 4

Environmental specifications

NOTE: For additional information about environmental certifications, please refer to the Product Environmental Datasheet located with the Manuals & Documents on support.dell.com.

Table 11. Temperature specifications

Temperature	Specifications
Storage	-40°C to 65°C (-40°F to 149°F)
Continuous operation (for altitude less than 950 m or 3117 ft)	10°C to 35°C (50°F to 95°F) with no direct sunlight on the equipment.
Fresh air	For information about fresh air, see the Expanded Operating Temperature section.
Maximum temperature gradient (operating and storage)	20°C/h (68°F/h)

Table 12. Relative humidity specifications

Relative humidity	Specifications
Storage	5% to 95% RH with 33°C (91°F) maximum dew point. Atmosphere must be non-condensing at all times.
Operating	10% to 80% relative humidity with 29°C (84.2°F) maximum dew point.

Table 13. Maximum vibration specifications

Maximum vibration	Specifications
Operating	0.26 G _{rms} at 5 Hz to 350 Hz (all operation orientations).
Storage	1.88 G _{rms} at 10 Hz to 500 Hz for 15 min (all six sides tested).

Table 14. Maximum shock specifications

Maximum shock	Specifications
Operating	Six consecutively executed shock pulses in the positive and negative x, y, and z axes of 6 G for up to 11 ms.
Storage	Six consecutively executed shock pulses in the positive and negative x, y, and z axes (one pulse on each side of the system) of 71 G for up to 2 ms.

Table 15. Maximum altitude specifications

Maximum altitude	Specifications
Operating	30482000 m (10,0006560 ft)
Storage	12,000 m (39,370 ft)

Table 16. Operating temperature derating specifications

Operating temperature derating	Specifications
Up to 35°C (95°F)	Maximum temperature is reduced by 1°C/300 m (1°F/547 ft) above 950 m (3,117 ft).
35°C to 40°C (95°F to 104°F)	Maximum temperature is reduced by 1°C/175 m (1°F/319 ft) above 950 m (3,117 ft).
40°C to 45°C (104°F to 113°F)	Maximum temperature is reduced by 1°C/125 m (1°F/228 ft) above 950 m (3,117 ft).

Particulate and gaseous contamination specifications

The following table defines the limitations that help avoid any equipment damage or failure from particulates and gaseous contamination. If the levels of particulates or gaseous pollution exceed the specified limitations and result in equipment damage or failure, you may need to rectify the environmental conditions. Re-mediation of environmental conditions is the responsibility of the customer.

Table 17. Particulate contamination specifications

Particulate contamination	Specifications
Air filtration	Data center air filtration as defined by ISO Class 8 per ISO 14644-1 with a 95% upper confidence limit. <i>i</i> NOTE: This condition applies to data center environments only. Air filtration requirements do not apply to IT equipment designed to be used outside a data center, in environments such as an office or factory floor.

Table 17. Particulate contamination specifications (continued)

Particulate contamination	Specifications
	<p>i NOTE: Air entering the data center must have MERV11 or MERV13 filtration.</p>
Conductive dust	<p>Air must be free of conductive dust, zinc whiskers, or other conductive particles.</p> <p>i NOTE: This condition applies to data center and non-data center environments.</p>
Corrosive dust	<ul style="list-style-type: none"> • Air must be free of corrosive dust. • Residual dust present in the air must have a deliquescent point less than 60% relative humidity. <p>i NOTE: This condition applies to data center and non-data center environments.</p>

Table 18. Gaseous contamination specifications

Gaseous contamination	Specifications
Copper coupon corrosion rate	<300 Å/month per Class G1 as defined by ANSI/ISA71.04-1985.
Silver coupon corrosion rate	<200 Å/month as defined by AHSRAE TC9.9.

i **NOTE:** Maximum corrosive contaminant levels measured at ≤50% relative humidity.

Standard operating temperature

Table 19. Standard operating temperature specifications

Standard operating temperature	Specifications
Continuous operation (for altitude less than 950 m or 3117 ft)	10°C to 35°C (50°F to 95°F) with no direct sunlight on the equipment.
Humidity percentage range	10% to 80% relative humidity with 29°C (84.2°F) maximum dew point.

Expanded operating temperature

Table 20. Expanded operating temperature specifications

Expanded operating temperature	Specifications
Continuous operation	<p>5°C to 40°C at 5% to 85% RH with 29°C dew point.</p> <p>i NOTE: Outside the standard operating temperature (10°C to 40°C), the system can operate continuously in temperatures as low as 5°C and as high as 40°C.</p> <p>For temperatures between 35°C and 40°C, de-rate maximum allowable temperature by 1°C per 175 m above 950 m (1°F per 319 ft).</p>
≤ 1% of annual operating hours	<p>–5°C to 45°C at 5% to 90% RH with 29°C dew point.</p> <p>i NOTE: Outside the standard operating temperature (10°C to 40°C), the system can operate down to –5°C or up to 45°C for a maximum of 1% of its annual operating hours.</p> <p>For temperatures between 40°C and 45°C, de-rate maximum allowable temperature by 1°C per 125 m above 950 m (1°F per 228 ft).</p>

NOTE: When operating in the expanded temperature range, system performance may be impacted.

NOTE: When operating in the expanded temperature range, ambient temperature warnings may be reported on the bezel's LCD panel and in the System Event Log.

Expanded operating temperature restrictions

- Do not perform a cold startup below 5°C.
- The operating temperature specified is for a maximum altitude of 3050 m (10,000 ft).
- Low core count processors [Gold 6240Y, 6146, 6144] and higher wattage processors [Thermal Design Power (TDP) \geq 165 W] are not supported.
- Non-Dell qualified peripheral cards and/or peripheral cards greater than 30 W are not supported.
- PCIe SSD is not supported.
- NVDIMM is not supported.
- DCPMM is not supported.

Thermal

PowerEdge servers have an extensive collection of sensors that automatically track thermal activity, which helps regulate temperature thereby reducing server noise and power consumption. The sensors in the MX840c interact with the chassis management services module which regulates fan speed. All fans which cool the MX840c are contained in the MX7000 chassis.

Thermal management of PowerEdge MX840c delivers high performance for the right amount of cooling to components at the lowest fan speeds across a wide range of ambient temperatures from 10°C to 35°C (50°F to 95°F) and to extended ambient temperature ranges (see Environmental Specifications). The benefits to you are lower fan power consumption (lower server system power and data center power consumption) and greater acoustical versatility.

Table 21. Thermal restrictions matrix

Ambient support	25°C	30°C	35°C	40°C-45°C Expanded operating temperature
Processor	No restriction	No restriction	No restriction	No support for 165 W processors and above. No support for Gold 6144(150W8c) 6146(165W12c) 6240Y(150W8c)
DIMM	No restriction	No restriction	No restriction	No support for NVDIMM
Drive	No restriction	No restriction	No restriction	No support for NVMe drive
Card	No restriction	No restriction	No restriction	No support for card power above 30 W

System diagnostics and indicator codes

The diagnostic indicators on the system front panel display system status during system startup.

Topics:

- [System ID and status LED indicator codes](#)
- [Power button LED](#)
- [Drive indicator codes](#)
- [System diagnostics](#)

System ID and status LED indicator codes

The system ID indicator is located on the control panel of your sled.



Figure 17. System ID and status LED indicators

Table 22. System ID and status LED indicator codes

System ID indicator code	Condition
Off	Indicates system is in the off state.
Blinking amber or steady amber	Indicates system fault or error condition.
Steady blue	Indicates normal operating state.
Blinking blue	Indicates system ID engaged. Blink rate is 1 Hz.

Power button LED

The power button LED is located on the front panel of your sled.



Figure 18. Power button LED

Table 23. Power button LED

Power button LED indicator code	Condition
Off	Sled is not operating, regardless of power supply available.
On	Sled is operating, one or more of the non-standby power supplies are active.
Slowly blinking	Sled is performing powering on sequence and iDRAC is still booting.

Drive indicator codes

Each drive carrier has an activity LED indicator and a status LED indicator. The indicators provide information about the current status of the drive. The activity LED indicator indicates whether the drive is currently in use or not. The status LED indicator indicates the power condition of the drive.



Figure 19. Drive indicators

1. Drive activity LED indicator
2. Drive status LED indicator
3. Drive capacity

NOTE: If the drive is in the Advanced Host Controller Interface (AHCI) mode, the status LED indicator does not turn on.


Table 24. Drive indicator codes

Drive status indicator code	Condition
Flashes green twice per second	Identifying drive or preparing for removal.
Off	Drive ready for removal. NOTE: The drive status indicator remains off until all drives are initialized after the system is turned on. Drives are not ready for removal during this time.
Flashes green, amber, and then turns off	Predicted drive failure.
Flashes amber four times per second	Drive failed.
Flashes green slowly	Drive rebuilding.
Solid green	Drive online.
Flashes green for three seconds, amber for three seconds, and then turns off after six seconds	Rebuild stopped.

System diagnostics

If you experience a problem with your system, run the system diagnostics before contacting Dell for technical assistance. The purpose of running system diagnostics is to test your system hardware without using additional equipment or risking data loss. If you are unable to fix the problem yourself, service and support personnel can use the diagnostics results to help you solve the problem.

Dell Embedded System Diagnostics

 **NOTE:** The Dell Embedded System Diagnostics is also known as Enhanced Pre-boot System Assessment (ePSA) diagnostics.

The Embedded System Diagnostics provides a set of options for particular device groups or devices allowing you to:

- Run tests automatically or in an interactive mode
- Repeat tests
- Display or save test results
- Run thorough tests to introduce additional test options to provide extra information about the failed device(s)
- View status messages that inform you if tests are completed successfully
- View error messages that inform you of problems encountered during testing

Running the Embedded System Diagnostics from Boot Manager

Run the Embedded System Diagnostics (ePSA) if your system does not boot.

Steps

1. When the system is booting, press F11.
2. Use the up arrow and down arrow keys to select **System Utilities > Launch Diagnostics**.
3. Alternatively, when the system is booting, press F10, select **Hardware Diagnostics > Run Hardware Diagnostics**. The **ePSA Pre-boot System Assessment** window is displayed, listing all devices detected in the system. The diagnostics starts executing the tests on all the detected devices.

Results

Running the Embedded System Diagnostics from the Dell Lifecycle Controller

Steps

1. As the system boots, press F10.
2. Select **Hardware Diagnostics → Run Hardware Diagnostics**. The **ePSA Pre-boot System Assessment** window is displayed, listing all devices detected in the system. The diagnostics starts executing the tests on all the detected devices.

System diagnostic controls

Menu	Description
Configuration	Displays the configuration and status information of all detected devices.
Results	Displays the results of all tests that are run.
System health	Provides the current overview of the system performance.
Event log	Displays a time-stamped log of the results of all tests run on the system. This is displayed if at least one event description is recorded.

Getting help

Topics:

- [Contacting Dell](#)
- [Documentation feedback](#)
- [Receiving automated support with SupportAssist](#)
- [Accessing system information by using QRL](#)
- [Quick Resource Locator for the PowerEdge MX840c sled](#)
- [Recycling or End-of-Life service information](#)

Contacting Dell

Dell provides several online and telephone based support and service options. If you do not have an active internet connection, you can find contact information about your purchase invoice, packing slip, bill, or Dell product catalog. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical assistance, or customer service issues:

Steps

1. Go to www.dell.com/support/home
2. Select your country from the drop-down menu on the lower right corner of the page.
3. For customized support:
 - a. Enter your system Service Tag in the **Enter your Service Tag** field.
 - b. Click **Submit**.
The support page that lists the various support categories is displayed.
4. For general support:
 - a. Select your product category.
 - b. Select your product segment.
 - c. Select your product.
The support page that lists the various support categories is displayed.
5. For contact details of Dell Global Technical Support:
 - a. Click [Global Technical Support](#)
 - b. The **Contact Technical Support** page is displayed with details to call, chat, or e-mail the Dell Global Technical Support team.

Documentation feedback

You can rate the documentation or write your feedback on any of our Dell EMC documentation pages and click **Send Feedback** to send your feedback.

Receiving automated support with SupportAssist

Dell EMC SupportAssist is an optional Dell EMC Services offering that automates technical support for your Dell EMC server, storage, and networking devices. By installing and setting up a SupportAssist application in your IT environment, you can receive the following benefits:

- **Automated issue detection** — SupportAssist monitors your Dell EMC devices and automatically detects hardware issues, both proactively and predictively.

- **Automated case creation** — When an issue is detected, SupportAssist automatically opens a support case with Dell EMC Technical Support.
- **Automated diagnostic collection** — SupportAssist automatically collects system state information from your devices and uploads it securely to Dell EMC. This information is used by Dell EMC Technical Support to troubleshoot the issue.
- **Proactive contact** — A Dell EMC Technical Support agent contacts you about the support case and helps you resolve the issue.

The available benefits vary depending on the Dell EMC Service entitlement purchased for your device. For more information about SupportAssist, go to www.dell.com/supportassist.

Accessing system information by using QRL

You can use the Quick Resource Locator (QRL) to get immediate access to the information about your system. The QRL is located on the top of the system cover and provides access to generic information about your system. If you want to access information specific to the system service tag, such as configuration and warranty, you can access QR code located on the system Information tag.

Prerequisites

Ensure that your smart phone or tablet has the QR code scanner installed.

The QRL includes the following information about your system:

- How-to videos
- Reference materials, including the Owner’s Manual, LCD diagnostics, and mechanical overview
- A direct link to Dell to contact technical assistance and sales teams

Steps

1. Go to www.dell.com/qrl and navigate to your specific product or
2. Use your smart phone or tablet to scan the model-specific Quick Resource (QR) code on your PowerEdge system or in the Quick Resource Locator section.

Quick Resource Locator for the PowerEdge MX840c sled



Figure 20. Quick Resource Locator for the PowerEdge MX840c

Recycling or End-of-Life service information

Take back and recycling services are offered for this product in certain countries. If you want to dispose of system components, visit www.dell.com/recyclingworldwide and select the relevant country.