

# Dell EMC PowerEdge XE8545

## 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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# Technical specifications

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

**Topics:**

- Chassis dimensions
- System weight
- Processor specifications
- PSU specifications
- Cooling fan specifications
- Supported operating systems
- System battery specifications
- Expansion card riser specifications
- Memory specifications
- Storage controller specifications
- Drive specifications
- Ports and connectors specifications
- Video specifications
- Environmental specifications

# Chassis dimensions

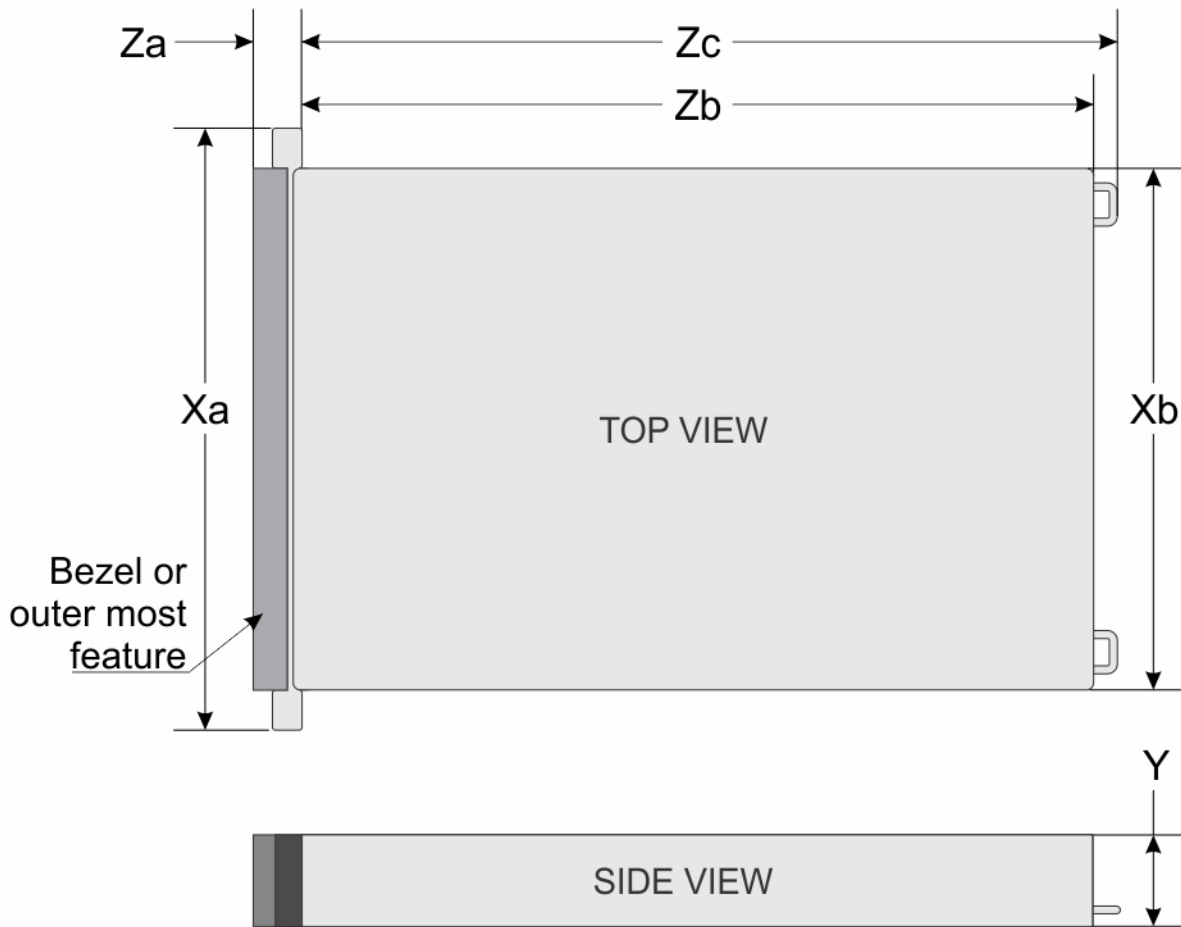


Figure 1. Chassis dimensions

Table 1. Chassis dimension for the system

Drives	Xa	Xb	Y	Za	Zb	Zc
10 drives	482.0 mm (18.97 inches)	447.0 mm (15.59 inches)	86.8 mm (3.41 inches)	35.84 mm (1.4 inches) With bezel 22.0 mm (0.87 inches) Without bezel	810 mm (31.88 inches) Ear to rear wall	845.59 mm (33.29 inches) Ear to PSU handle

**NOTE:** Zb is the nominal rear wall external surface where the system board I/O connectors reside.

# System weight

Table 2. System weight of the PowerEdge XE8545 system

System configuration	Maximum weight (with all drives/SSDs)
10 x 2.5-inch	48.61 kg (107.17 lb)

# Processor specifications

**Table 3. Processor specifications for the system**

Supported processor	Number of processors supported
AMD EPYC 7003 Series processor with up to 64 cores	Two

# PSU specifications

The system supports up to two AC or DC power supply units (PSUs).

**⚠ WARNING: Instructions for the qualified electricians only:**

System using -(48-60) V DC or 240 V DC power supplies are intended for restricted access locations in accordance with Articles 110-5, 110-6, 110-11, 110-14, and 110-17 of the National Electrical Code, American National Standards Institute (ANSI)/National Fire Protection Association (NFPA) 70.

240 V DC power supplies shall be connected to the 240 V DC outlet from certified power distribution units if applicable in country of use.

Power supply cords/jumper cords and the associated plugs/inlets/connectors shall have appropriate electrical ratings referencing the rating label on the system when used for connection.

**Table 4. PSU specifications for the system**

PSU	Class	Heat dissipation (maximum)	Frequency	Voltage	Current
2400 W Mixed Mode AC/HVDC	Platinum	9000 BTU/hr	50/60 Hz	100 - 240 VAC autoranging	16 - 13.5 A
2400 W Mixed Mode AC/HVDC	N/A	9000 BTU/hr	DC	240 V DC	11.2 A

**i NOTE:** If the system with AC 2400 W PSU operate at low line 100-120 V AC, then the power rating per PSU is derated to 1400 W.

**i NOTE:** When selecting or upgrading the system configuration, to ensure optimum power utilization, verify the system power consumption with the Dell Energy Smart Solution Advisor available at [Dell.com/ESSA](https://Dell.com/ESSA).



# Cooling fan specifications

The PowerEdge XE8545 system supports up to six very high performance gold grade (HPR (Gold)) cooling fans connected to the system board directly. The system also supports 12 very high performance fans in the front, for GPU cooling.

**Table 5. Cooling fan specifications**

Fan type	Abbreviation	Also known as	Label color	Label image
High-performance fan (Gold grade) fan	HPR (Gold)	VHP - Very High Performance	Gold	<b>i NOTE:</b> New cooling fans comes with the High Performance Gold Grade label. While the older cooling fans has the High Performance label.

**Table 5. Cooling fan specifications**

Fan type	Abbreviation	Also known as	Label color	Label image
				 <p data-bbox="986 712 1425 741">Figure 2. Very high performance fan</p>  <p data-bbox="986 1227 1481 1283">Figure 3. High performance (Gold grade) fan</p>

**NOTE:** For more information about the supported fan configuration or matrix, see [Thermal restriction matrix](#).

## Supported operating systems

The PowerEdge XE8545 supports the following operating systems:

- Canonical Ubuntu Server LTS
- Microsoft Windows Server with Hyper-V
- Red Hat Enterprise Linux
- VMware ESXi
- CentOS

## System battery specifications

The PowerEdge XE8545 system supports CR 2032 3.0-V lithium coin cell system battery.

## Expansion card riser specifications

The system supports up to four PCI express (PCIe) Gen 4 expansion cards.

**Table 6. Expansion card slots supported for Riser Configuration 1**

PCIe slot	Risers	Riser width	PCIe slot height	PCIe slot length	PCIe slot width
Slot 2	R1A	x16 PCIe	Full height	Half length	x16
Slot 6	R2C	x16 PCIe	Low profile	Half length	x16
Slot 7	R4B	x8 PCIe	Full height	Half length	x8
Slot 8	R4B	x8 PCIe	Full height	Half length	x8

**Table 7. Expansion card slots supported for Riser Configuration 2**

PCIe slot	Risers	Riser width	PCIe slot height	PCIe slot length	PCIe slot width
Slot 2	R1A	x16 PCIe	Full height	Half length	x16
Slot 6	R2C	x16 PCIe	Low profile	Half length	x16
Slot 7	R4A	x16 PCIe	Full height	Half length	x16

## Memory specifications

The system supports the following memory specifications for optimized operation.

**Table 8. Memory specifications**

DIMM type	DIMM rank	DIMM capacity	DIMM Rated Voltage and supported speed	Speed	
				Single Processor	Dual Processor
RDIMM	Dual rank	32 GB, 64 GB	DDR4 (1.2 V), 3200	3200	2933

**Table 9. Memory module sockets**

Memory module sockets	Speed
32, 288-pin	3200 MT/s, 2933 MT/s, 2666 MT/s

## Storage controller specifications

The system supports the following controller cards:

**Table 10. Storage controller cards for the system**

Internal controllers
PERC H745

## Drive specifications

### Drives

The PowerEdge XE8545 system supports:

- 10 x 2.5-inch hot-swappable SAS, SATA drives.

- 8 x 2.5-inch hot-swappable NVMe drives.

**NOTE:** For more information about how to hot swap NVMe PCIe SSD U.2 device, see the *Dell Express Flash NVMe PCIe SSD User's Guide* at <https://www.dell.com/support> **Browse all Products > Data Center Infrastructure > Storage Adapters & Controllers > Dell PowerEdge Express Flash NVMe PCIe SSD > Documentation > Manuals and Documents.**

## Ports and connectors specifications

### USB ports specifications

**Table 11. USB specifications**

Front		Rear	
USB port type	No. of ports	USB port type	No. of ports
USB 2.0-compliant port	One	USB 3.0-compliant port	One
Micro-USB 2.0 compliant port	One	USB 2.0-compliant port	One

**NOTE:** The micro USB 2.0 compliant port can only be used as an iDRAC Direct or a management port.

**NOTE:** The USB 2.0 specifications provide a 5 V supply on a single wire to power connected USB devices. A unit load is defined as 100 mA in USB 2.0, and 150 mA in USB 3.0. A device may draw a maximum of 5 unit loads (500 mA) from a port in USB 2.0; 6 (900 mA) in USB 3.0.

**NOTE:** The USB 2.0 interface can provide power to low-power peripherals but must adhere to USB specification. An external power source is required for higher-power peripherals to function, such as external CD/DVD Drives.

### NIC port specifications

The system supports up to two 10/100/1000 Mbps Network Interface Controller (NIC) ports embedded on the LAN on Motherboard (LOM) and integrated on the optional OCP cards.

**Table 12. NIC port specification for the system**

Feature	Specifications
LOM card	1 GB x 2
OCP card (OCP 3.0)	1

### VGA ports specifications

The system supports One DB-15 VGA port one each on the front and back panels.

### Serial connector specifications

The PowerEdge XE8545 system supports one optional card type serial connector, which is a 9-pin connector, Data Terminal Equipment (DTE), 16550-compliant .

The optional serial connector card is installed similar to an expansion card filler bracket.

# Video specifications

The system supports integrated Matrox G200 graphics controller with 16 MB of video frame buffer.

**Table 13. Supported front video resolution options for the system**

Resolution	Refresh rate (Hz)	Color depth (bits)
1024 x 768	60	8, 16, 32
1280 x 800	60	8, 16, 32
1280 x 1024	60	8, 16, 32
1360 x 768	60	8, 16, 32
1440 x 900	60	8, 16, 32
1600 x 900	60	8, 16, 32
1600 x 1200	60	8, 16, 32
1680 x 1050	60	8, 16, 32
1920 x 1080	60	8, 16, 32
1920 x 1200	60	8, 16, 32

**Table 14. Supported rear video resolution options for the system**

Resolution	Refresh rate (Hz)	Color depth (bits)
1024 x 768	60	8, 16, 32
1280 x 800	60	8, 16, 32
1280 x 1024	60	8, 16, 32
1360 x 768	60	8, 16, 32
1440 x 900	60	8, 16, 32
1600 x 900	60	8, 16, 32
1600 x 1200	60	8, 16, 32
1680 x 1050	60	8, 16, 32
1920 x 1080	60	8, 16, 32
1920 x 1200	60	8, 16, 32

# Environmental specifications

**NOTE:** For additional information about environmental certifications, refer to the *Product Environmental Datasheet* located with the Manuals & Documents on [www.dell.com/support/home](http://www.dell.com/support/home).

**Table 15. Operational climatic range category A2**

Temperature	Specifications
Allowable continuous operations	
Temperature ranges for altitudes <= 900 m (<= 2953 ft)	10–35°C (50–95°F) with no direct sunlight on the equipment
Humidity percent ranges (non-condensing at all times)	8% RH with -12°C minimum dew point to 80% RH with 21°C (69.8°F) maximum dew point

**Table 15. Operational climatic range category A2**

Temperature	Specifications
Operational altitude de-rating	Maximum temperature is reduced by 1°C/300 m (33.8°F/984 Ft) above 900 m (2953 Ft)

**i** **NOTE:** Certain system hardware configurations may require operating temperatures to be less than 28°C. For more information, see the Thermal air restrictions section.

**Table 16. Shared requirements across all categories**

Temperature	Specifications
Allowable continuous operations	
Maximum temperature gradient (applies to both operation and non-operation)	20°C in an hour* (36°F in an hour) and 5°C in 15 minutes (41°F in 15 minutes), 5°C in an hour* (41°F in an hour) for tape <b>i</b> <b>NOTE:</b> * - Per ASHRAE thermal guidelines for tape hardware, these are not instantaneous rates of temperature change.
Non-operational temperature limits	-40 to 65°C (-104 to 149°F)
Non-operational humidity limits	5% to 95% RH with 27°C (80.6°F) maximum dew point
Maximum non-operational altitude	12,000 meters (39,370 feet)
Maximum operational altitude	3,048 meters (10,000 feet)

**Table 17. Maximum vibration specifications**

Maximum vibration	Specifications
Operating	0.21 G <sub>rms</sub> at 5 Hz to 500 Hz (all operation orientations)
Storage	1.88 G <sub>rms</sub> at 10 Hz to 500 Hz for 15 minutes (all six sides tested)

**Table 18. Maximum shock pulse specifications**

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

## Thermal restriction matrix

**Table 19. Thermal restriction matrix**

TDP (W)	Heat sink type	Fan Type	2 x 2.5" SAS + 8 x 2.5" NVMe			
-	-	-	ASHRAE A2 (Max 35° C)	Ambient Limit (Max 30° C)	Ambient Limit (Max 25° C)	Ambient Limit (Max 20° C)
AMD Milan 64C 280W 2.5-2.6 GHz 256 MB	2U CPU Heat sink	Very High Performance Fan	Supported			
AMD Milan 24C 240W 3.15 GHz 256 MB						
AMD Milan 64C 225W 2.05-2.15 GHz 256 MB						

**Table 19. Thermal restriction matrix**

TDP (W)	Heat sink type	Fan Type	2 x 2.5" SAS + 8 x 2.5" NVMe
AMD Milan 32C 225W 2.7-2.8 GHz 256 MB			
AMD Milan 64C 225W 2.0 GHz 256 MB			
AMD Milan 48C 225W 2.2-2.3 GHz 256 MB			
AMD Milan 24C 180W 2.55-2.65 GHz 128 MB			

**Table 20. GPU/FPGA thermal restriction matrix**

TDP (W)	Heat sink type	Fan Type	ASHRAE A2 (Max 35° C)	Ambient Limit (Max 30° C)	Ambient Limit (Max 25° C)	Ambient Limit (Max 20° C)
Nvidia 500 W A100 80 GB GPU	2.5U GPU Heat sink	Very High Performance Fan	Not supported	Not supported (Max ambient support limit = 28° C)	Supported	Supported
Nvidia 400 W A100 40 GB GPU			Supported	Supported	Supported	Supported

**i NOTE:** When the 80 GB GPUs are installed, the iDRAC sets the thermal warning threshold to 28° C instead of the normal 38° C.

**i NOTE:** If System Board Inlet Temp reaches 28° C - 32° C, a warning message is logged. It is possible the GPUs may lower power consumption to avoid thermal damage. This results in lower GPU performance.

**Table 21. Processor and heat sink matrix**

Heat sink	Processor TDP
2U HPR (Silver) HSK	Supports all TDP

## Particulate and gaseous contamination specifications

The following table defines the limitations that help avoid any damages to the IT equipment and/or, or both failure from particulate and gaseous contamination. If the levels of particulate or gaseous pollution exceed the specified limitations and results in equipment damage or failure, you must rectify the environmental conditions. Remediation of environmental conditions is the responsibility of the customer.

**Table 22. 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. <b>i NOTE:</b> 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. <b>i NOTE:</b> Air entering the data center must have MERV11 or MERV13 filtration.

**Table 22. Particulate contamination specifications (continued)**

Particulate contamination	Specifications
	<p><b>i</b> <b>NOTE:</b> Air filtering can also be accomplished by filtering room air with MERV8 filter per ANSI/ASHRAE Standard 127</p>
Conductive dust	<p>Air must be free of conductive dust, zinc whiskers, or other conductive particles.</p> <p><b>i</b> <b>NOTE:</b> This condition applies to data center and non-data center environments.</p> <p><b>i</b> <b>NOTE:</b> Common sources of conductive dust include manufacturing processes, and zinc whiskers from the plating on the bottom of raised floor tiles</p>
Corrosive dust	<ul style="list-style-type: none"> <li>• Air must be free of corrosive dust.</li> <li>• Residual dust present in the air must have a deliquescent point less than 60% relative humidity.</li> </ul> <p><b>i</b> <b>NOTE:</b> This condition applies to data center and non-data center environments.</p>

**Table 23. Gaseous contamination specifications**

Gaseous contamination	Specifications
Copper Coupon Corrosion rate	<300 Å/month per Class G1 as defined by ANSI/ISA71.04-2013
Silver Coupon Corrosion rate	<200 Å/month as defined by ANSI/ISA71.04-2013

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

## Thermal air restrictions

### ASHRAE A2 environment

- CPU TDP > 280 W are not supported.
- PCIe card TDP > 25 W is not supported.
- Nvidia A100 80 GB GPU (Max TDP with 500 W) is not supported within ASHRAE A2. Maximum Ambient temperature supported is 28°C.

# Getting help

## Topics:

- [Recycling or End-of-Life service information](#)
- [Contacting Dell](#)
- [Accessing system information by using QRL](#)
- [Receiving automated support with SupportAssist](#)

## 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](http://www.dell.com/recyclingworldwide) and select the relevant country.

## Contacting Dell

Dell provides online and telephone based support and service options. If you do not have an active internet connection, you can find Dell contact information on your purchase invoice, packing slip, bill or Dell product catalog. The availability of services varies depending on the 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](http://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 the system Service Tag in the **Enter a Service Tag, Serial Number, Service Request, Model, or Keyword** 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.

## Accessing system information by using QRL

You can use the Quick Resource Locator (QRL) located on the information tag in the of the XE8545 system, to access information about Dell EMC PowerEdge XE8545.

### Prerequisites

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

The QRL includes the following information about your system:

- How-to videos
- Reference materials, including the Installation and Service Manual, and mechanical overview
- The system service tag to quickly access the specific hardware configuration and warranty information
- A direct link to Dell to contact technical assistance and sales teams

### Steps

1. Go to [www.dell.com/qrl](http://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 system or in the Quick Resource Locator section.

## Quick Resource Locator for PowerEdge XE8545 system



Figure 4. Quick Resource Locator for PowerEdge XE8545 system

## 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](http://www.dell.com/supportassist).