Dell EMC PowerEdge R350

Technical Specifications

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DELL Technologies

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 fans 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

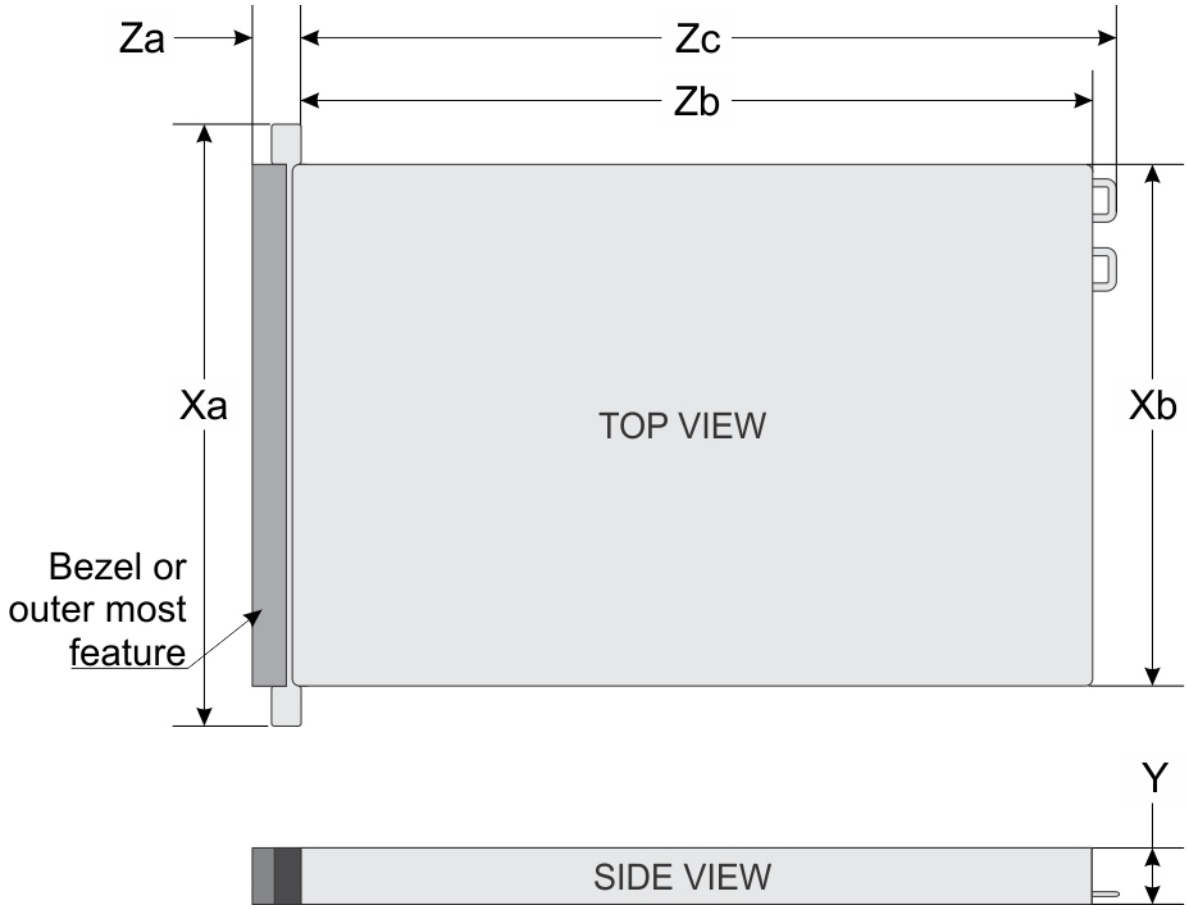

Figure 1. Chassis dimensions

Table 1. PowerEdge R350 chassis dimensions

Drives	Xa	Xb	Y	Za	Zb	Zc
4 x 3.5-inch	482.0 mm (18.98 inches)	434.0 mm (17.09 inches)	42.8 mm (1.7 inches)	35.64 mm (1.40 inches)With bezel 22.0 mm (0.86 inches)Without bezel	534.59 mm (21.04 inches) Ear to rear wall	563.3 mm (22.18 inches) Ear to PSU handle
8 x 2.5-inch	482.0 mm (18.98 inches)	434.0 mm (17.09 inches)	42.8 mm (1.7 inches)	35.64 mm (1.40 inches)With bezel 22.0 mm (0.86 inches)Without bezel	483.82 mm (19.04 inches) Ear to rear wall	512.53 mm (20.17 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. PowerEdge R350 system weight

System configuration	Maximum weight (with all drives/SSDs)
4 x 3.5-inch	13.14 kg (28.96 pound)
8 x 2.5-inch	11.74 kg (25.88 pound)

Processor specifications

Table 3. PowerEdge R350 processor specifications

Supported processor	Number of processors supported
Intel Xeon E-2300 series processor with up to 8 cores	One

PSU specifications

The PowerEdge R350 system supports up to two AC power supply units (PSUs).

Table 4. PSU specifications

PSU	Class	Heat dissipation (maximum)	Frequency	Voltage	AC		DC Input	AC Current	DC Current
					High line 200–240 V	Low line 100–120 V			
600 W AC	Platinum	2250 BTU/hr	50/60 Hz	100 - 240 V, autoranging	600 W	600 W	240 VDC	7.1 - 3.6 A	2.9 A

NOTE: This system is also designed to connect to the IT power systems with a phase-to-phase voltage not exceeding 240 V.

NOTE: Heat dissipation is calculated using the PSU wattage rating.

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**.

Cooling fans specifications

The PowerEdge R350 system supports up to four non hot plug system fans connected to the system board.

NOTE: For more information about the fan support configuration or matrix, see Thermal restriction matrix.

Supported operating systems

The PowerEdge R350 system supports the following operating systems:

- Canonical Ubuntu Server LTS
- Citrix Hypervisor
- Microsoft Windows Server with Hyper-V
- Red Hat Enterprise Linux
- SUSE Linux Enterprise Server

For more information, go to www.dell.com/ossupport.

System battery specifications

The PowerEdge R350 system supports CR 2032 3.0-V lithium coin cell system battery.

Expansion card riser specifications

The PowerEdge R350 system supports up to three PCI express (PCIe) Gen 4 expansion cards.

Table 5. Expansion card slots supported on the system board

PCIe slot	Form factor	Processor	PCIe slot bandwidth	PCIe slot connector
Slot 1	Half Height	Processor 1	Gen4 x8 lanes	x8
Slot 2	Half Height	Processor 1	Gen4 x8 lanes	x16
Internal	Half Length	Processor 1	Gen4 x4 lanes	x8

Table 6. Riser Configuration 0

PCIe slot	Risers	Riser width	PCIe slot height	PCIe slot length	PCIe slot width
Slot 1	Butterfly Riser	Single Wide	Half Height	Half Length	x8
Slot 2	Butterfly Riser	Single Wide	Half Height	Half Length	x8
Internal	NA	Single Wide	Half Height	Half Length	x4

Memory specifications

The PowerEdge R350 system supports the following memory specifications for optimized operation.

Table 7. Memory specifications

DIMM type	DIMM rank	DIMM capacity	Single processor	
			Minimum system capacity	Maximum system capacity
UDIMM	Single rank	8 GB	8 GB	32 GB
		16 GB	16 GB	64 GB
	Dual rank	32 GB	32 GB	128 GB

Table 8. Memory module sockets

Memory module sockets	Speed
4, 288-pin	3200 MT/s, 2933 MT/s, 2666 MT/s

NOTE: Memory DIMM slots are not hot pluggable.

NOTE: Pentium processors support up to 2666 MT/s only. All channels in a system run at the fastest common frequency.

NOTE: Using dual rank UDIMMs with two DIMMs per channel (2DPC) limits the speed to 2933 MT/s.

Storage controller specifications

The PowerEdge R350 system supports the following controller cards:

Table 9. Storage controller cards

Internal controllers	External controllers
• PERC H355 • PERC H355f • PERC H345 • PERC H755 • HBA355i • PERC H345f • PERC H755f • HBA355f	• HBA355e

Drive specifications

Drives

The PowerEdge R350 system supports:

- 4 x 3.5-inch hot-swappable SAS, SATA drives.
- 8 x 2.5-inch hot-swappable SAS, SATA drives.

Optical drives

The PowerEdge R350 system supports one Slim SATA DVD-ROM drive or DVD +/- RW drive.

NOTE: DVD devices support only data.

Ports and connectors specifications

NIC port specifications

The PowerEdge R350 system supports up to two 10/100/1000 Mbps Network Interface Controller (NIC) ports embedded on Motherboard.

Table 10. NIC port specification for the system

Feature	Specifications
LOM	1 GB x 2

Serial connector specifications

The PowerEdge R350 system supports serial connector, which is a 9-pin connector, Data Terminal Equipment (DTE), 16550-compliant .

USB ports specifications

Table 11. PowerEdge R350 USB specifications

Front		Rear		Internal (Optional)	
USB port type	**No. of ports**	**USB port type**	**No. of ports**	**USB port type**	**No. of ports**
USB 2.0-compliant port	One	USB 3.0-compliant port	One	Internal USB 3.0-compliant port	One
iDRAC Direct port (Micro-AB 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.

VGA ports specifications

The PowerEdge R350 system supports One DB-15 VGA port on back panel.

IDSDM

The PowerEdge R350 system supports Internal Dual SD module (IDSDM).

The IDSDM supports two SD cards and is available in the following configurations:

Table 12. Supported SD card storage capacity

IDSDM card
• 16 GB • 32 GB • 64 GB

NOTE: One IDSDM card slot is dedicated for redundancy.

NOTE: Use Dell EMC branded SD cards that are associated with the IDSDM configured systems.

Video specifications

The PowerEdge R350 system supports integrated Matrox G200 graphics controller with 16 MB of video frame buffer.

Table 13. Supported video resolution options

Resolution	Refresh rate (Hz)	Color depth (bits)
1024 x 768	60, 72, 75, 85	8, 16, 32
1280 x 800	60, 75	8, 16, 32
1280 x 1024	60, 75, 85	8, 16, 32
1360 x 768	60	8, 16, 32
1440 x 900	60, 75, 85	8, 16, 32
1600 x 900	60	8, 16, 32
1600 x 1200	60, 65, 70, 75, 85	8, 16, 32
1680 x 1050	60, 75, 85	8, 16, 32

Table 13. Supported video resolution options (continued)

Resolution	Refresh rate (Hz)	Color depth (bits)
1920 x 1080	60	8, 16, 32
1920 x 1200	60, 75, 85	8, 16, 32

Environmental specifications

NOTE: For additional information about environmental certifications, see the *Product Environmental Datasheet* located with the *Documentation* on www.dell.com/support/home.

Table 14. Continuous Operation Specifications for ASHRAE A2

	Allowable continuous operations
Temperature range for altitudes <= 900 m (<= 2953 ft)	10–35°C (50–95°F) with no direct sunlight on the equipment
Humidity percent range (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
Operational altitude de-rating	Maximum temperature is reduced by 1°C/300 m (33.8°F/984 Ft) above 900 m (2953 Ft)

Table 15. Continuous Operation Specifications for ASHRAE A3

	Allowable continuous operations
Temperature range for altitudes <= 900 m (<= 2953 ft)	5–40°C (41–104°F) with no direct sunlight on the equipment
Humidity percent range (non-condensing at all times)	8% RH with -12°C minimum dew point to 85% RH with 24°C (75.2°F) maximum dew point
Operational altitude de-rating	Maximum temperature is reduced by 1°C/175 m (33.8°F/574 Ft) above 900 m (2953 Ft)

Table 16. Continuous Operation Specifications for ASHRAE A4

	Allowable continuous operations
Temperature range for altitudes <= 900 m (<= 2953 ft)	5–45°C (41–113°F) with no direct sunlight on the equipment
Humidity percent range (non-condensing at all times)	8% RH with -12°C minimum dew point to 90% RH with 24°C (75.2°F) maximum dew point
Operational altitude de-rating	Maximum temperature is reduced by 1°C/125 m (33.8°F/410 Ft) above 900 m (2953 Ft)

Table 17. Common Environmental Specifications for ASHRAE A2, A3, A4

	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 **NOTE:** * - 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 18. 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 minutes (all six sides tested)

Table 19. 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.

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 20. 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. **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. **NOTE:** Air entering the data center must have MERV11 or MERV13 filtration. **NOTE:** Air filtering can also be accomplished by filtering room air with MERV8 filter per ANSI/ASHRAE Standard 127
Conductive dust	Air must be free of conductive dust, zinc whiskers, or other conductive particles. **NOTE:** This condition applies to data center and non-data center environments. **NOTE:** Common sources of conductive dust include manufacturing processes, and zinc whiskers from the plating on the bottom of raised floor tiles
Corrosive dust	• Air must be free of corrosive dust. • Residual dust present in the air must have a deliquescent point less than 60% relative humidity. **NOTE:** This condition applies to data center and non-data center environments.

Table 21. Gaseous contamination specifications

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

Table 21. Gaseous contamination specifications (continued)

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

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

Thermal air restrictions

ASHRAE A3/A4 environment

- BOSS (M.2) is not supported.
- 8 x 2.5-inch supported with capacity < 1 TB.
- Redundant power supplies are required.
- Non Dell qualified peripheral cards and/or peripheral cards greater than 25 W are not supported.