

Dell EMC PowerEdge C4140

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.

 **NOTE:** Internal cable connectors are not hot-pluggable.

Topics:

- Chassis dimensions
- System weight
- GPU specifications
- Processor specifications
- Supported operating systems
- PSU specifications
- Cooling fans specifications
- System battery specifications
- Expansion bus specifications
- Memory specifications
- Storage specifications
- Drive specifications
- Ports and connectors specifications
- Video specifications
- Environmental specifications

Chassis dimensions

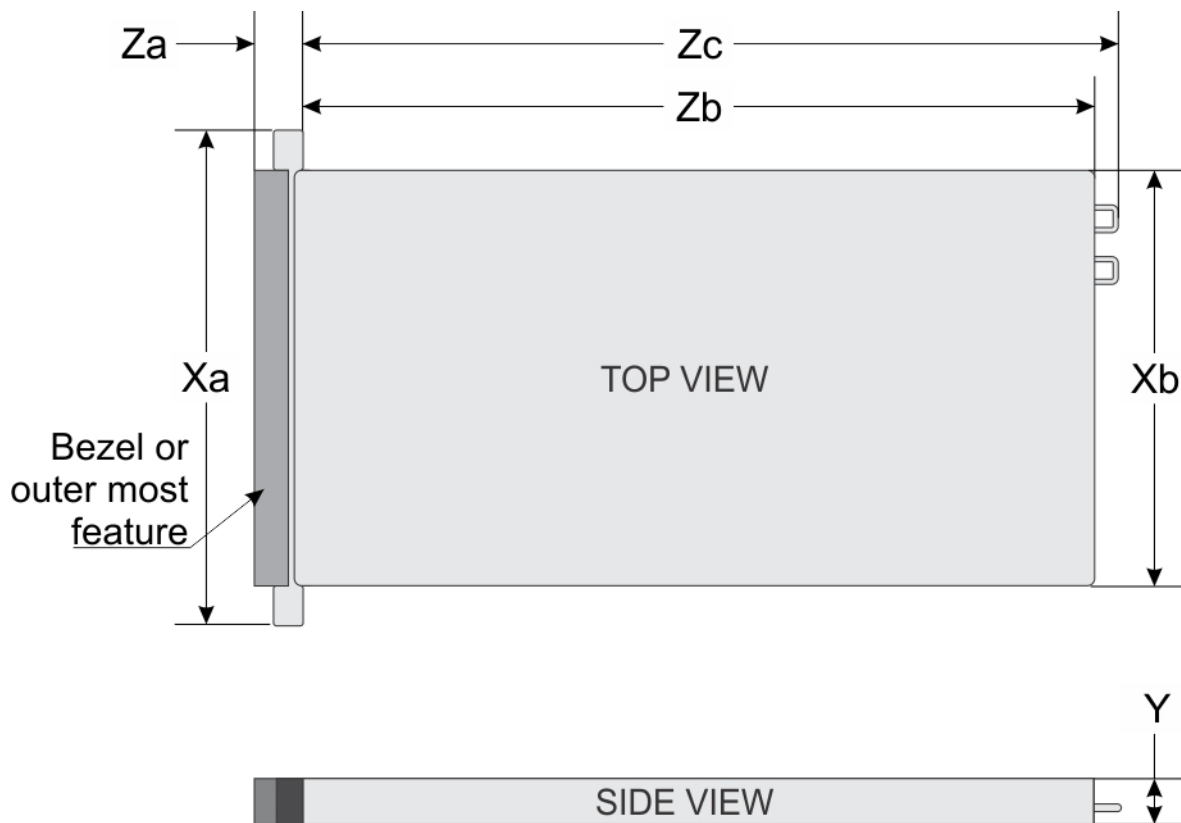


Figure 1. Details the dimensions of PowerEdge C4140 system

Table 1. The dimensions of PowerEdge C4140 system

Xa	Xb	Y	Za	Zb*	Zc
482.4 mm (18.99 inches)	434 mm (17.08 inches)	43.1 mm (1.69 inches)	18.0 mm (0.70 inches)	886.4 mm (34.89 inches)	923.8 mm (36.37 inches)

* - Zb goes to the nominal rear wall external surface where the system board I/O connectors are located.

System weight

Table 2. System weight

System	Maximum weight
PowerEdge C4140 (Configuration C - with PCIe GPUs)	22.1 kg (48.7 lb)
PowerEdge C4140 (Configuration K - with SXM2 GPUs)	24 kg (52.91 lb)

GPU specifications

The Dell EMC PowerEdge C4140 supports up to 4 double wide GPUs, with 300 W each in either PCIe or SXM2 form factor. The following GPUs are supported:

- NVIDIA Tesla P40
- NVIDIA Tesla P100 12 GB PCIe
- NVIDIA Tesla P100 16 GB PCIe and NVLink
- NVIDIA Tesla V100 16 GB PCIe and NVLink

- NVIDIA Tesla V100 32GB PCIe and NVLINK

Processor specifications

The PowerEdge C4140 system supports two 2nd Generation Intel Xeon Scalable processors with up to 26 cores per processor.

NOTE: Ensure that both the processors are populated and both are of same type or model.

NOTE: Processor sockets are not hot-pluggable.

Supported operating systems

The Dell EMC PowerEdge C4140 supports the following operating systems:

- Canonical Ubuntu LTS
- Citrix XenServer
- Microsoft Windows Server
- Red Hat Enterprise Linux
- SUSE Linux Enterprise Server
- VMware ESXi

NOTE: For more information on the specific versions and additions, go to www.dell.com/support/home/us/en/04/Drivers/SupportedOS/poweredge-c4140

PSU specifications

The Dell EMC PowerEdge C4140 system supports the following AC power supply units (PSU):

Table 3. PSU specifications

PSU	Class	Heat dissipation (maximum)	Frequency	Voltage	AC		Current
					High line 100–240 V	Low line 100–120 V	
2400 W AC	Titanium	9000 BTU/hr	50/60 Hz	100–240 V AC, autoranging	2400 W	NA	16 A
2000 W AC	Platinum	7500 BTU/hr	50/60 Hz	100–240 V AC, autoranging	2000 W	NA	11.5 A

NOTE:

- Heat dissipation is calculated using the PSU wattage rating.
- This system is also designed to connect to the IT power systems with a phase-to-phase voltage not exceeding 240 V.

Cooling fans specifications

The Dell EMC PowerEdge C4140 system supports up to eight standard cooling fans.

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.

Table 4. Dell EMC PowerEdge C4140 fan support matrix

Processor count	Fan 1	Fan 2	Fan 3	Fan 4	Fan 5	Fan 6	Fan 7	Fan 8
2	Required	Required	Required	Required	Required	Required	Required	Required

NOTE: Each fan is listed in the systems management software, referenced by the respective fan number. If there is a problem with a particular fan, you can easily identify and replace the proper fan by noting the fan numbers on the cooling fan assembly.

System battery specifications

The PowerEdge C4140 system supports CR 2032 lithium coin cell system battery.

Expansion bus specifications

The PowerEdge C4140 system supports PCI express (PCIe) generation 3 expansion cards, which are installed on the system, using expansion card risers. This system supports two risers, riser 1A and riser 2A.

NOTE: Riser slots are not hot-pluggable.

Memory specifications

Table 5. Memory specifications

DIMM type	DIMM rank	DIMM capacity	Dual processors	
			Minimum RAM	Maximum RAM
LRDIMM	Quad rank	64 GB	128 GB	1536 GB
RDIMM	Dual rank	64 GB	128 GB	1536 GB
RDIMM	Dual rank	32 GB	64 GB	768 GB
RDIMM	Dual rank	16 GB	32 GB	384 GB
RDIMM	Single rank	8 GB	16 GB	192 GB

NOTE:

- Ensure that all the memory slots are populated either with DIMMs or DIMM blanks.
- It is recommended to have all DIMMs of same type.

NOTE: Memory DIMM slots are not hot-pluggable.

Storage specifications

The Dell EMC PowerEdge C4140 system supports the following controller cards :

Table 6. Dell EMC PowerEdge C4140 system controller cards

Internal controllers	External controllers
One BOSS PCIe card with M.2 SATA SSDs Up to two NVMe/PCIe SSDs as internal storage Up to 2 NVMe add-in cards in slots 1 and 3	12 Gbps SAS HBA H840

NOTE: The M.2 boot drives have to be of the same capacity and set in a mirrored RAID-1 configuration.

NOTE: Initial status LED of PCIe SSDs may vary based on the actual drive status and server components populated.

NOTE: IDSDM and vFlash slot is not hot-pluggable

NOTE: Mini-PERC socket is not hot-pluggable.

Drive specifications

The Dell EMC PowerEdge C4140 system supports optional two 2.5-inch cabled SATA SSDs is installed only in PSU 2 bay.

CAUTION: Do not power off or reboot your system while the drive is being formatted. Doing so can cause a drive failure.

NOTE: Two SATA SSDs in a non-RAID configuration by using the optional SATA drive cage. Option to configure RAID 1 manually only.



Figure 2. 2.5-inch SATA SSDs

1. HDD1
2. HDD0

Ports and connectors specifications

USB ports

The PowerEdge C4140 system supports:

- Two USB 3.0-compliant ports on the back panel
- One internal USB 3.0-compliant port

NIC ports


The PowerEdge C4140 system supports up to four integrated 10/100/1000/Mbps Network Interface Controller (NIC) ports on the back panel.

NOTE: You can install up to three PCIe add-on NIC cards.

NOTE: The NDC slot is not hot-pluggable.


Serial port

The PowerEdge C4140 system supports one serial port on the rear view. This port is a 9-pin connector, Data Terminal Equipment (DTE), 16550-compliant.

 **NOTE:** The serial port is not hot-pluggable.

VGA ports

The Video Graphic Array (VGA) port enables you to connect the system to a VGA display. The PowerEdge C4140 system supports one 15-pin VGA port on the back of system.

 **NOTE:** The VGA ports are not hot-pluggable.

Video specifications

The PowerEdge C4140 system supports a Matrox G200eW3 integrated VGA controller.

Table 7. Supported video resolution options

Resolution	Refresh rate (Hz)	Color depth (bit)
640 X 480	60, 70	8, 16, 32
800 X 600	60, 75, 85	8, 16, 32
1024 X 768	60, 75, 85	8, 16, 32
1152 X 864	60, 75, 85	8, 16, 32
1280 X 1024	60, 75	8, 16, 32
1440 X 900	60	8, 16, 32
1920 x 1200	60	8, 16, 32

Environmental specifications

For additional information about environmental certifications, please refer to the Product Environmental Datasheet located with the Manuals & Documents on www.dell.com/poweredgemanuals

Table 8. 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 30°C (50°F to 86°F) with no direct sunlight on the equipment.  NOTE: Certain system hardware configurations may require operating temperatures to be less than 25°C. For more information, see the Ambient temperature limitations section.
Fresh air	For information about fresh air, see Expanded Operating Temperature section.
Maximum temperature gradient (operating and storage)	20°C/h (68°F/h)

Table 9. 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 10. 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 11. 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 12. Maximum altitude specifications

Maximum altitude	Specifications
Operating	3048 m (10,000 ft)
Storage	12,000 m (39,370 ft)

Table 13. Operating temperature de-rating specifications

Operating temperature de-rating	Specifications
Up to 30°C (86°F)	Maximum temperature is reduced by 1°C/300 m (1°F/547 ft) above 950 m (3,117 ft).

Standard operating temperature

Table 14. Standard operating temperature specifications

Standard operating temperature	Specifications
Continuous operation (for altitude less than 950 m or 3117 ft)	10°C to 30°C (50°F to 86°F) with no direct sunlight on the equipment.

Maximum recommended ambient operating temperature

Table 15. Configuration B

CPU Power Dissipation / GPU Power (4x)	2x 70 W	2x 85 W	2x 105 W	2x 125 W	2x 130 W	2x 140 W	2x 150 W	2x 165 W
325 W	21	21	20	19	19	18	17	15
300 W	23	23	22	21	21	20	19	17
275 W	25	25	24	23	23	22	21	19
250 W	27	26	26	25	25	24	23	22
225 W	29	28	28	27	27	26	25	24
200 W	30	30	30	30	29	28	27	26

Table 16. Configuration C

CPU Power Dissipation / GPU Power (4x)	2x 70 W	2x 85 W	2x 105 W	2x 125 W	2x 130 W	2x 140 W	2x 150 W	2x 165 W
325 W	24	23	22	21	20	20	19	17
300 W	28	26	24	23	23	23	22	20
275 W	28	27	26	25	25	24	23	21
250 W	30	29	28	27	26	26	25	23
225 W	30	30	30	29	28	28	28	26
200 W	30	30	30	30	30	30	30	28

Table 17. Configuration G

CPU Power Dissipation / GPU Power (4x)	2x 70 W	2x 85 W	2x 105 W	2x 125 W	2x 130 W	2x 140 W	2x 150 W	2x 165 W
325 W	23	22	20	19	18	18	18	17
300 W	25	24	22	21	21	20	19	18
275 W	27	26	23	23	23	22	21	20
250 W	28	27	25	25	25	24	23	22
225 W	30	29	27	27	27	26	25	24
200 W	30	30	29	29	29	28	27	26

Table 18. Configuration K

CPU Power Dissipation / NVLink SXM2	2x 70 W	2x 85 W	2x 105 W	2x 125 W	2x 130 W	2x 140 W	2x 150 W	2x 165 W
300W	25	24	22	21	20	19	18	18

Table 19. Configuration M

CPU Power Dissipation / NVLink SXM2	2x 70 W	2x 85 W	2x 105 W	2x 125 W	2x 130 W	2x 140 W	2x 150 W	2x 165 W
300W	24	24	23	23	22	22	20	20

Particulate and gaseous contamination specifications

The following table defines the limitations that help avoid any equipment damage or failure from particulate and gaseous contamination. If the levels of particulate or gaseous pollution exceed the specified limitations and result in equipment damage or failure, you may need to 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. <i>i</i> NOTE: This condition applies to data center environments only. Air filtration requirements do not apply to IT equipment designed to be

Table 20. Particulate contamination specifications (continued)

Particulate contamination	Specifications
	<p>used outside a data center, in environments such as an office or factory floor.</p> <p>i NOTE: Air entering the data center must have the 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 21. 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.