Dell EMC PowerEdge T440

Technical Specifications

DELLTechnologies

Notes, cautions, and warnings

(i) **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.**

Contents

Technical specifications

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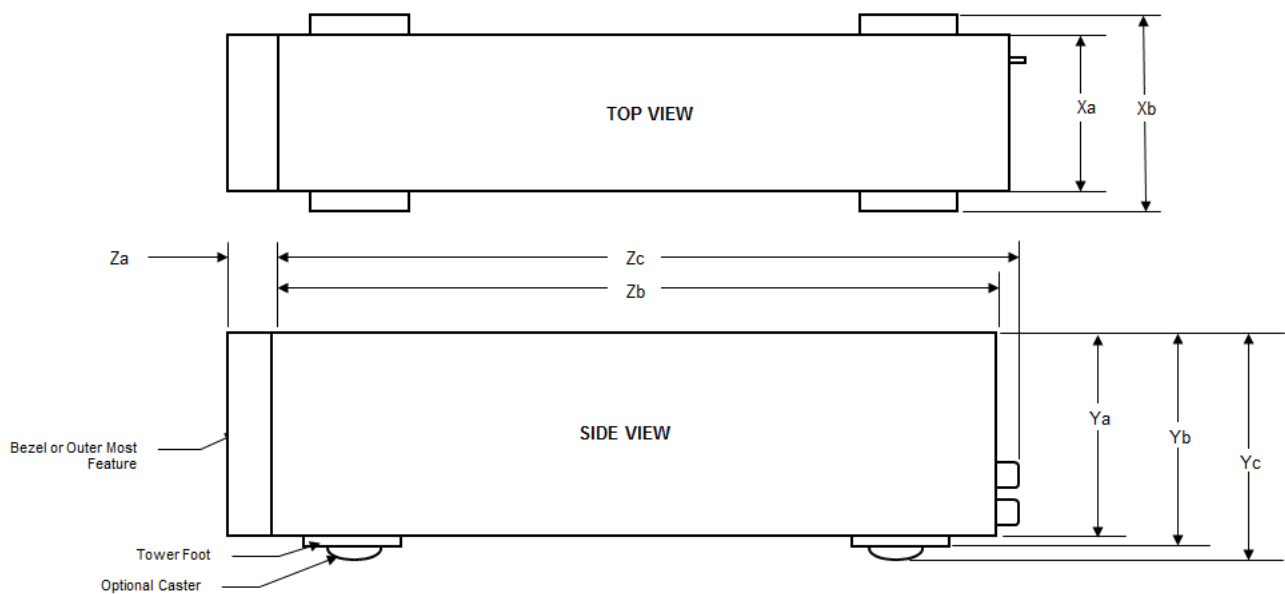
Topics:

System dimensions

Figure 1. Dell EMC PowerEdge T440 system dimensions

Table 1. Dimensions of Dell EMC PowerEdge T440 system

Xa	Xb	Ya	Yb	Yc	Za	Zb	Zc
218 mm (8.58 in)	307.9 mm (12.12 in)	430.3 mm (16.94 in)	443.3 mm (17.45 in)	471.333 mm (17.37 in)	(with bezel) 37.065 mm (1.45 in) (without bezel) 21.165 mm (0.83 in)	538.4 mm (21.19 in)	573.636 mm (22.58 in)

Chassis weight

Table 2. Dell EMC PowerEdge T440 Chassis weight

System configuration	Maximum weight
4 x 3.5-inch drive system (no longer offering)	23 Kg (50.71 lb)
8 x 3.5-inch drive system	29.3 Kg (64.60 lb)
16 x 2.5-inch drive system	27.7 Kg (61.06 lb)

Processor specifications

The Dell EMC PowerEdge T440 system supports up to two Intel Xeon Scalable Processor, up to 16 cores per processor.

Supported operating systems

The Dell EMC PowerEdge T440 system supports the following operating systems:

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

ⓘ **NOTE:** For more information, go to www.dell.com/ossupport.

Cooling fan specifications

The Dell EMC PowerEdge T440 system supports the following:
● An internal cooling fan
● An optional external cooling fan at the back of the chassis

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

PSU specifications

The Dell EMC PowerEdge T440 system supports the following AC redundant power supply units (PSU):

Table 3. Dell EMC PowerEdge T440 system PSU specifications

PSU	Class	Heat dissipation (maximum)	Frequency	Voltage
1100 W AC	Platinum	4100 BTU/hr	50/60 Hz	100−240 V AC, autoranging
750 W AC	Platinum	2891 BTU/hr	50/60 Hz	100−240 V AC, autoranging
750 W mixed mode HVDC (For China only)	Platinum	2891 BTU/hr	50/60 Hz	100−240 V AC, autoranging
				240 V DC
495 W AC	Platinum	1908 BTU/hr	50/60 Hz	100−240 V AC, autoranging
450 W (no longer offering)	Bronze	1871 BTU/hr	50/60 Hz	100−240 V AC, cabled PSU

This system is also designed to connect to the IT power systems with a phase to phase voltage not exceeding 230 V.

System battery specifications

The Dell EMC PowerEdge T440 system supports CR 2032 3.0-V lithium coin cell system battery.

Expansion bus specifications

The Dell EMC PowerEdge T440 system supports five PCI express (PCIe) generation 3 expansion cards.

Memory specifications

Table 4. Memory specifications

DIMM type	DIMM rank	DIMM capacity	Single processor		Dual processors	
			Minimum RAM	Maximum RAM	Minimum RAM	Maximum RAM
RDIMM	Single rank	8 GB	8 GB	80 GB	16 GB	128 GB
RDIMM	Dual rank	16 GB	16 GB	160 GB	32 GB	256 GB
RDIMM	Dual rank	32 GB	32 GB	320 GB	64 GB	512 GB
LRDIMM	Quad rank	64 GB	64 GB	640 GB	128 GB	1024 GB

Storage controller specifications

The Dell EMC PowerEdge T440 system supports:
● **Software RAID**: S140
● **Internal controllers**: H750, H350, H740p, H730p, H330
● **Boot Optimized Storage Subsystem (BOSS)**: HWRAID 2 x M.2 SSDs 120 GB, 240 GB with 6 Gb/s
  ○ x8 connector using PCIe Gen 2.0 x2 lanes, available only in the low-profile and half-height form factor.
● **External controller**: HBA355e, H840, 12 Gbps Ext SAS HBA
● **SAS Hot Bus Adapters**: HBA350i, HBA330

(i) **NOTE:** The new generation PERC 11 H750, H350, and HBA350i adapters cannot be mixed with the PERC H740P, H730P, H330, HBA330 adapters of the previous generations in one system.

(i) **NOTE:** Valid TBU configurations:
● HBA330 adapter can be connected to TBU and the PERC H740P, H730P, H330, HBA330 can be connected to the drive backplane.

- HBA350i adapter can be connected to TBU and the PERC H750, H350, HBA350i can be connected to the drive backplane.

Drive specifications

Drives

The Dell EMC PowerEdge T440 system supports:
- 4x3.5 configuration (no longer offering): Up to 4 SAS or SATA drives/Nearline SAS drives
- 8x3.5 configuration: Up to 8 SAS or SATA drives/Nearline SAS drives
- 16x2.5 configuration: Up to 16 SAS or SATA drives

Optical drive and tape drive

The Dell EMC PowerEdge T440 system supports:
- one optional slim SATA DVD-ROM drive or DVD +/-RW drive
- internal tape drives LTO5, LTO6, LTO7 and external SAS drives.

Your system supports one of the following configurations:
- Systems with cabled drives support one optical drive and one tape drive.
- Systems with hot-swappable drives support up to one optical drive and two tape drives.

Ports and connectors specifications

USB ports

Dell EMC PowerEdge T440 system

Table 5. USB specifications

Front panel	Back panel
● One USB 2.0-compliant port ● One USB 3.0-compliant port	● 4 USB 2.0-compliant rear ports ● 2 USB 3.0-compliant rear ports

NIC ports

The Dell EMC PowerEdge T440 system supports two Network Interface Controller (NIC) ports on the back panel each with 1 Gbps configuration.

ⓘ **NOTE:** You can install up to five PCIe add-on cards.

VGA ports

The Video Graphic Array (VGA) port enables you to connect the system to a VGA display. The Dell EMC PowerEdge T440 system supports one 15-pin VGA ports on the back of the system.

Serial connector

The Dell EMC PowerEdge T440 system supports one serial connector on the back panel, which is a 9-pin connector, Data Terminal Equipment (DTE), 16550-compliant.

IDSDM or vFlash card

The Dell EMC PowerEdge T440 systemIDSDM module contains both Internal Dual SD Module (IDSDM) and vFlash card that are combined into a single card module. The following are options available for PowerEdge T440 system:

- VFlash only
- IDSDM only
- vFlash + IDSDM

Video specifications

The Dell EMC PowerEdge T440 system supports Matrox G200eW3 graphics card with 16 MB capacity.

Table 6. Supported video resolution options

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

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

Table 7. Temperature specifications

Temperature	Specifications
Storage	−40°C–65°C (−40°F–149°F)
Continuous operation (for altitude less than 950 m or 3117 ft)	10°C–35°C (50°F–95°F) with no direct sunlight on the equipment.
Maximum temperature gradient (operating and storage)	20°C/h (68°F/h)

Table 8. Relative humidity specifications

Relative humidity	Specifications
Storage	5% to 95% RH with 33°C (91°F) maximum dew point. Atmosphere must be noncondensing always.
Operating	10% to 80% relative humidity with 29°C (84.2°F) maximum dew point.

Table 9. Maximum vibration specifications

Maximum vibration	Specifications
Operating	0.26 G_{rms} at 5 Hz to 350 Hz (all 3 axes).
Storage	1.88 G_{rms} at 10 Hz to 500 Hz for 15 min (all six sides tested).

Table 10. 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	6 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 11. Maximum altitude specifications

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

Table 12. Operating temperature derating specifications

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

Standard operating temperature

Table 13. Standard operating temperature specifications

Standard operating temperature	Specifications
Continuous operation (for altitude less than 950 m or 3117 ft)	10°C–35°C (50°F–95°F) with no direct sunlight on the equipment.

Expanded operating temperature

Table 14. Expanded operating temperature specifications

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

Table 14. Expanded operating temperature specifications (continued)

Expanded operating temperature	Specifications
	For temperatures 40°C–45°C, derate maximum allowable temperature by 1°C per 125 m above 950 m (1°F per 228 ft).

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

(i) **NOTE:** When operating in the expanded temperature range, ambient temperature warnings may be reported 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 3048 m (10,000 ft).
- Two nonredundant power supply units are required.
- Two nonredundant system fans are required.
- Non-Dell qualified peripheral cards and/or peripheral cards greater than 25 W are not supported.
- GPU is not supported.
- Tape backup unit is not supported.

Thermal restriction matrix

Table 15. Thermal restriction matrix for Dell EMC PowerEdge T440 system

Storage configuration			8x 3.5-inch drive	16x 2.5-inch drive
Processor number	TDP (W)	Core count	Ambient support = 35°C	
Intel Xeon Gold 5215	85	10	Yes	Yes
Intel Xeon Gold 5222	105	4	Yes	Yes
Intel Xeon Gold 5120	105	14	Yes	Yes
Intel Xeon Gold 5118	105	12	Yes	Yes
Intel Xeon Silver 4208	85	8	Yes	Yes
Intel Xeon Silver 4210	85	10	Yes	Yes
Intel Xeon Silver 4210R	100	10	Yes	Yes
Intel Xeon Silver 4214	85	12	Yes	Yes
Intel Xeon Silver 4214R	100	12	Yes	Yes
Intel Xeon Silver 4215	85	8	Yes	Yes
Intel Xeon Silver 4216	100	16	Yes	Yes
Intel Xeon Silver 4114	85	10	Yes	Yes
Intel Xeon Silver 4110	85	8	Yes	Yes
Intel Xeon Silver 4112	85	4	Yes	Yes
Intel Xeon Bronze 3204	85	6	Yes	Yes
Intel Xeon Bronze 3206R	85	8	Yes	Yes

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 16. Particulate contamination specifications

Particulate contamination	Specifications
Air filtration	Data center air filtration defines, ISO Class 8 per ISO 14644-1 with a 95% upper confidence limit. (i) **NOTE:** The ISO Class 8 condition applies to data center environments only. This air filtration requirement does not apply to IT equipment designed to be used outside a data center, in environments such as an office or factory floor. (i) **NOTE:** Air entering the data center must have MERV11 or MERV13 filtration.
Conductive dust	Air must be free of conductive dust, zinc whiskers, or other conductive particles. (i) **NOTE:** This condition applies to data center and nondata center environments.
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. (i) **NOTE:** This condition applies to data center and nondata center environments.

Table 17. Gaseous contamination specifications

Gaseous contamination	Specifications
Copper coupon corrosion rate	<300 Å/month per Class G1 defines, ANSI/ISA71.04-2013.
Silver coupon corrosion rate	<200 Å/month defines, ANSI/ISA71.04-2013.

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