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Dell EMC PowerEdge T140 system overview

The Dell EMC PowerEdge T140 system is a tower server that supports:

- One Intel Xeon, Core i3, Pentium, or Celeron processor
- Four DIMM slots
- Cabled AC power supply unit
- Up to four 3.5-inch cabled SAS or SATA drives.

For more information, see the Technical specifications section.

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

Topics:

Front view of the system

Figure 1. Front view of the system

1. Power button
2. System health and ID indicator
3. USB 3.0 port
4. iDRAC direct micro USB port
5. Optical drive (optional)

For more information about the ports, see the Ports and connectors specifications section.

Rear view of the system

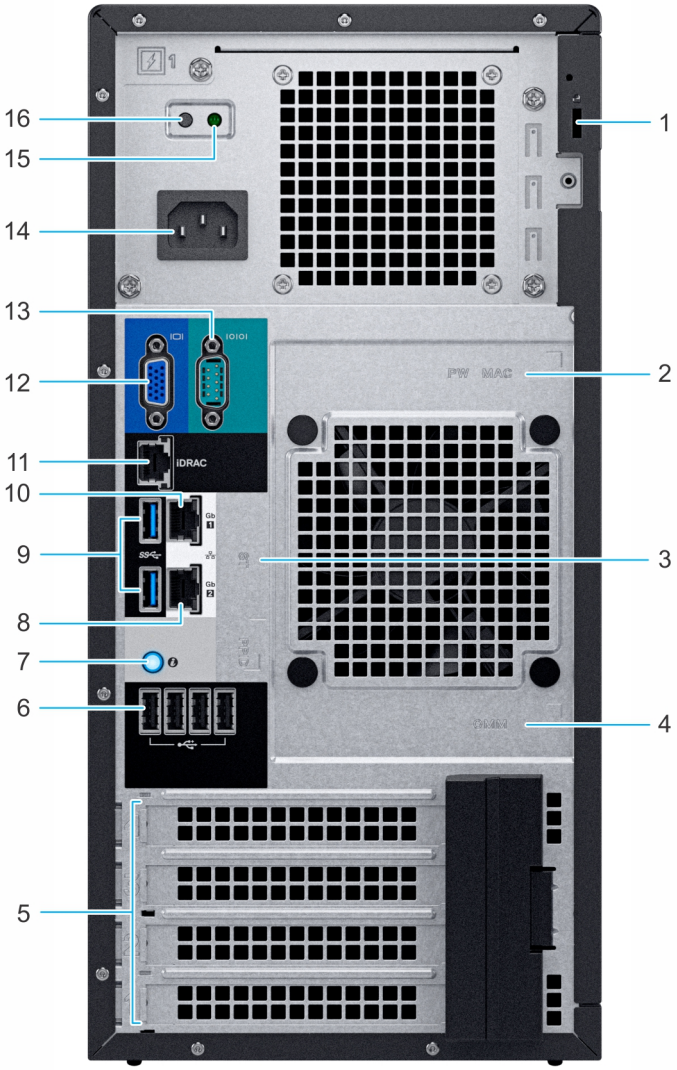

Figure 2. Rear view of the system

1. Security Cable Lock
2. iDRAC MAC address and iDRAC secure password label
3. Service Tag, Express Service Code, QRL label
4. OpenManage Mobile (OMM) label
5. PCIe expansion card slots (4)
6. USB 2.0 port (4)
7. System identification button
8. NIC port (Gb 2)
9. USB 3.0 ports (2)
10. NIC port (Gb 1)
11. iDRAC dedicated NIC port
12. VGA port
13. Serial port
14. Power supply unit
15. PSU Built-in Self Test (BIST) LED
16. PSU Built-in Self Test (BIST) Button

NOTE: For more information about the ports and connectors, see the Ports and connectors specifications section.

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Technical specifications

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

Topics:

Chassis dimensions

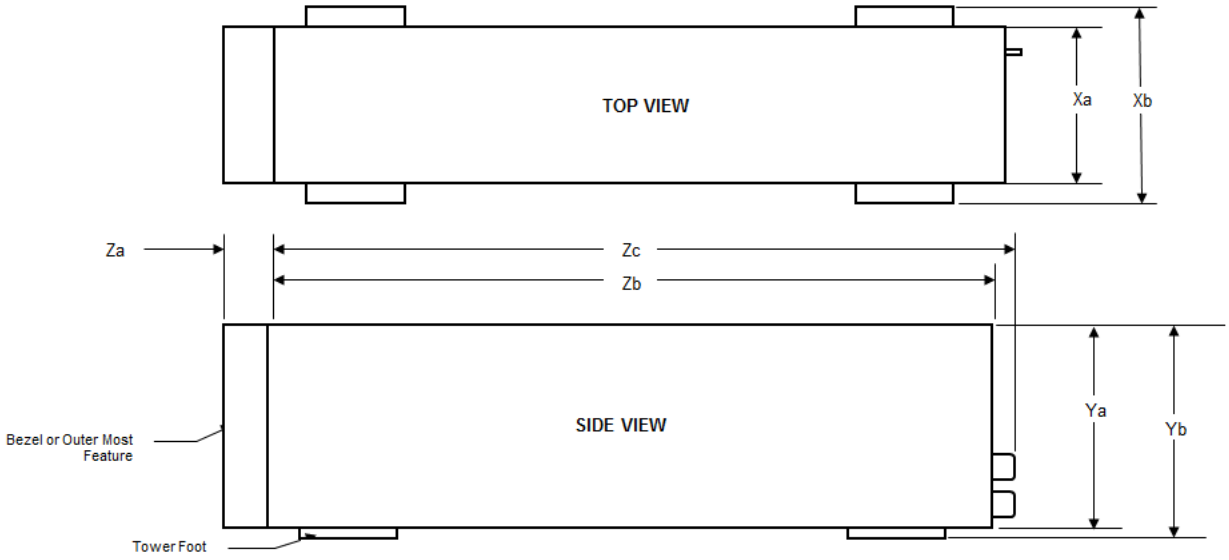

Figure 3. Chassis dimensions

Table 1. Dell EMC PowerEdge T140 system dimensions

Xa	Xb	Ya	Yb	Za	Zb	Zc
175 mm (6.89 inches)	NA	360 mm (14.17 inches)	362.9 mm (14.29 inches)	With bezel: 35.0 mm (1.38 inches)	400.0 mm (15.75 inches)	418.75 mm (16.49 inches)

Xa	Xb	Ya	Yb	Za	Zb	Zc
				Without bezel: NA		

System weight

Table 2. Dell EMC PowerEdge T140 system weight

System configuration	Maximum weight (with all drives)
4 x 3.5-inch drives	11.84 kg (26.10 lb)

Processor specifications

Table 3. Dell EMC PowerEdge T140 processor specifications

Supported processor	Number of processors supported
Intel Xeon processor E-2200 product family Intel Core i3 9100 processor Intel Pentium G5420 processor Intel Celeron G4930 processor Intel Xeon processor E-2100 product family Intel Core i3 8100 processor Intel Pentium G5500 processor Intel Celeron G4900 processor	One

PSU specifications

The Dell EMC PowerEdge T140 system supports up to one AC cabled power supply unit (PSU).

Table 4. Dell EMC PowerEdge T140 PSU specifications

PSU	Class	Heat dissipation (maximum)	Frequency	Voltage	AC		DC	Current
					High line 100–240 V	Low line 100–140 V		
365 W AC	Gold	1908 BTU/hr	50/60 Hz	100–240 V AC, autoranging	365 W	N/A	N/A	5 A

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

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

Cooling fan specifications

The Dell EMC PowerEdge T140 system supports the following:

- One system cooling fan located at the back of the system.
- One processor cooling fan located on the heat sink.

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.

System battery specifications

The Dell EMC PowerEdge T140 system supports CR 2032 3.0-V lithium coin cell system battery.

Expansion card specifications

The Dell EMC PowerEdge T140 system supports up to four PCI express (PCIe) Generation 3.

Table 5. Expansion card slots supported on the system board

PCIe slot	Processor Connection	PCIe slot height	PCIe slot length	Slot width
Slot 1 (Gen3)	Processor	Full Height	Half Length	x8 link in x8 slot
Slot 2 (Gen3)	Processor	Full Height	Half Length	x8 link in x16 slot
Slot 3 (Gen3)	Platform Controller Hub	Full Height	Half Length	x1
Slot 4 (Gen3)	Platform Controller Hub	Full Height	Half Length	x4 link in x8 slot

NOTE: The expansion cards are not hot swappable.

Memory specifications

The Dell EMC PowerEdge T140 system supports the following memory specifications for optimized operation:

Table 6. Memory specifications

DIMM type	DIMM rank	DIMM capacity	Minimum RAM	Maximum RAM
UDIMM	Single rank	8 GB	8 GB	32 GB
		16 GB	16 GB	64 GB
	Dual rank	8 GB	8 GB	32 GB
		16 GB	16 GB	64 GB

Storage controller specifications

The Dell EMC PowerEdge T140 system supports the following controller cards:

Table 7. Dell EMC PowerEdge T140 system controller cards

Internal controllers	External controllers
• PERC H730P • PERC H330 • HBA330	• 12Gbps SAS Ext. HBA

Drive specifications

Drives

The Dell EMC PowerEdge T140 system supports:

- 4 x 3.5-inch SAS, SATA drives

  NOTE: For a system with 4 TB (or more) drive capacity, PERC is required for thermal control.

Optical drives

The Dell EMC PowerEdge T140 system supports the following optical drives.

Table 8. Supported optical drive type

Supported drive type	Supported number of drives
Dedicated SATA DVD-ROM drive or DVD +/-RW drive	One

Ports and connectors specifications

USB ports specifications

Table 9. Dell EMC PowerEdge T140system USB port specifications

Front panel	Back panel	Internal USB
· One USB 3.0-compliant ports · One micro USB 2.0-compliant port for iDRAC Direct **NOTE: The micro USB 2.0 compliant port can only be used as an iDRAC Direct or a management port.**	· Two USB 3.0-compliant ports · Four USB 2.0-compliant ports	· One internal USB 3.0-compliant port

NIC ports specifications

The Dell EMC PowerEdge T140 system supports up to two 10/100/1000 Mbps Network Interface Controller (NIC) ports that are located on the back panel.

Serial connector specifications

The Dell EMC PowerEdge T140 system supports one serial connector on the back panel, which is a 9-pin connector, Data Terminal Equipment (DTE), 16550-compliant.

VGA ports specification

The Dell EMC PowerEdge T140 system supports one 15-pin VGA port, on the back of the system.

NOTE: The front VGA port is available only with the rack configuration.

Video specifications

The Dell EMC PowerEdge T140 system supports Matrox G200eR2 graphics card with 16 MB capacity.

Table 10. Supported video resolution options

Resolution	Refresh rate	Color depth (bits)
640x480	60, 70	8, 16, 24
800x600	60, 75, 85	8, 16, 24
1024x768	60, 75, 85	8, 16, 24
1152x864	60, 75, 85	8, 16, 24

Resolution	Refresh rate	Color depth (bits)
1280x1024	60, 75	8, 16, 24

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.

Table 11. Temperature specifications

Temperature	Specifications
Storage	-40–65°C (-40–149°F)
Continuous operation (for altitude less than 950 m or 3117 ft)	10–35°C (50–95°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 noncondensing at all times.
Operating	10% to 80% RH 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 minutes (all six sides tested)

Table 14. 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.

Table 15. Maximum altitude specifications

Maximum altitude	Specifications
Operating	3048 m (10,000 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).
35–40°C (95–104°F)	Maximum temperature is reduced by 1°C/175 m (1°F/319 ft), above 950 m (3,117 ft).

Operating temperature derating	Specifications
40–45°C (104–113°F)	Maximum temperature is reduced by 1°C/125 m (1°F/228 ft), above 950 m (3,117 ft).

Standard operating temperature

Table 17. Standard operating temperature specifications

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

Expanded operating temperature

Table 18. 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 35°C– 40°C, derate maximum allowable temperature by 1°C per 175 m (1°F per 319 ft) above 950 m (3,1171 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°C–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.** For temperatures 40°C– 45°C, derate maximum allowable temperature by 1°C per 125 m (1°F per 228 ft) above 950 m (3.117 ft).

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

NOTE: When operating in the expanded temperature range, ambient temperature warnings may be reported on the System Event Log.

Expanded operating temperature restrictions

- Do not perform a cold startup of the system below 5°C.
- The operating temperature specified is for a maximum altitude of 3048 m (10,000 ft).
- One non-redundant power supply unit is required.
- One system fan 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.
- For a system with 4 TB (or more) drive capacity, PERC is required for thermal control.

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 19. 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.**
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.**
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 20. Gaseous contamination specifications

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

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

Thermal restriction matrix

Table 21. Thermal restrictions matrix

Ambient	25°C	30°C	35°C
Processor	No restriction	No restriction	No restriction
DIMM	No restriction	No restriction	No restriction
Drive	No restriction	No restriction	No restriction
Card	No restriction	No restriction	No restriction

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System diagnostics and indicator codes

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

Topics:

- System health and system ID indicator codes
- NIC indicator codes
- Non-redundant cabled power supply unit indicator codes
- PowerEdge T140 system diagnostics

System health and system ID indicator codes

The system health and system ID indicator is located on the front panel of your system.

Figure 4. System health and system ID indicator

Table 22. System health and system ID indicator codes

System health and system ID indicator code	Condition
Solid blue	Indicates that the system is turned on, system is healthy, and system ID mode is not active. Press the system health and system ID button to switch to system ID mode.
Blinking blue	Indicates that the system ID mode is active. Press the system health and system ID button to switch to system health mode.
Solid amber	Indicates that the system is in fail-safe mode. If the problem persists, see the Getting help section.
Blinking amber	Indicates that the system is experiencing a fault. Check the System Event Log for specific error messages. For information about the event and error messages generated by the system firmware and agents that monitor system components, see the Error Code Lookup page at qrl.dell.com

NIC indicator codes

Each NIC on the back of the system has indicators that provide information about the activity and link status. The activity LED indicator indicates if data is flowing through the NIC, and the link LED indicator indicates the speed of the connected network.

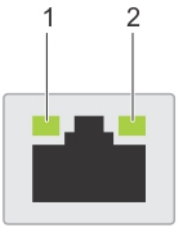

Figure 5. NIC indicator codes

1. Link LED indicator
2. Activity LED indicator

Table 23. NIC indicator codes

Status	Condition
Link and activity indicators are off.	The NIC is not connected to the network.
Link indicator is green, and activity indicator is blinking green.	The NIC is connected to a valid network at its maximum port speed, and data is being sent or received.
Link indicator is amber, and activity indicator is blinking green.	The NIC is connected to a valid network at less than its maximum port speed, and data is being sent or received.
Link indicator is green, and activity indicator is off.	The NIC is connected to a valid network at its maximum port speed, and data is not being sent or received.
Link indicator is amber, and activity indicator is off.	The NIC is connected to a valid network at less than its maximum port speed, and data is not being sent or received.
Link indicator is blinking green, and activity is off.	NIC identify is enabled through the NIC configuration utility.

Non-redundant cabled power supply unit indicator codes

Press the self-diagnostic button to perform a quick health check on the non-redundant cabled power supply unit (PSU) of the system.

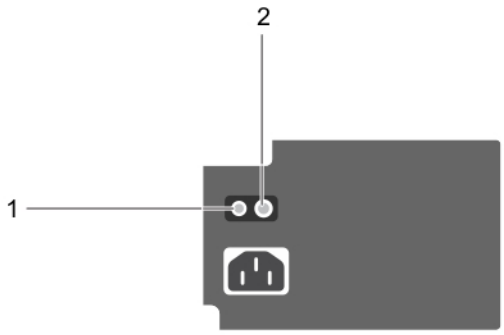

Figure 6. Non-redundant cabled AC PSU status indicator and self-diagnostic button

1. Self-diagnostic button
2. AC PSU status indicator

Table 24. Non-redundant AC PSU status indicator

Power Indicator Pattern	Condition
Not lit	Power is not connected or PSU is faulty.
Green	A valid power source is connected to the PSU and the PSU is operational.

PowerEdge T140 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.