# Dell EMC PowerEdge R840

## Technical Specifications

Regulatory Model: E49S Series
Regulatory Type: E49S001

## 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.**



2018 - 05

Rev. A00

# Contents

1

# PowerEdge R840 system overview

The PowerEdge R840 is a 2U server that supports up to:

- Four Intel Xeon Processor Scalable family (Skylake-EP) processors
- 48 DIMM slots
- Two AC or DC power supply units
- 26 SAS, SATA, Nearline SAS hard drives or SSDs including two rear accessible drives, and up to 24 NVMe drives.
  For more information about supported drives, see the Technical specifications section.

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

Topics:



# Front view of the system

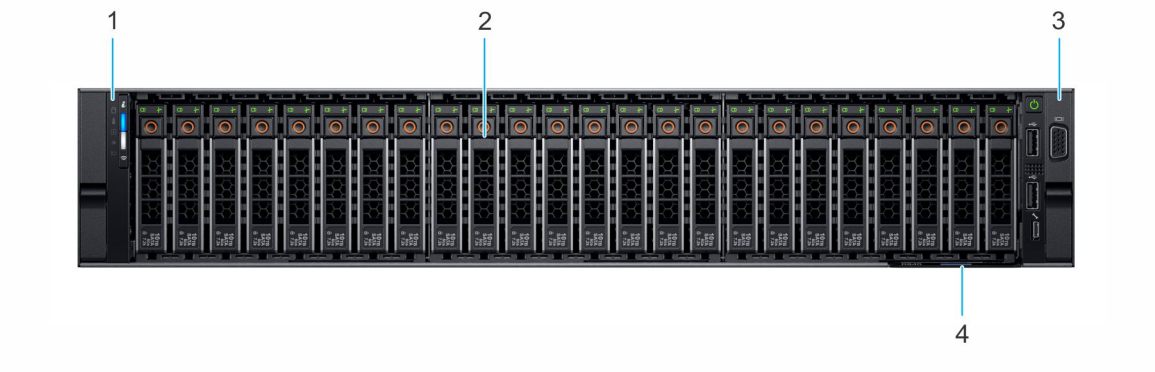



**Figure 1. Front view 24 x 2.5-inch drive system**

| | | | |
|---|---|---|---|
| 1 | Left control panel | 2 | Drives |
| 3 | Right control panel | 4 | Service Tag |

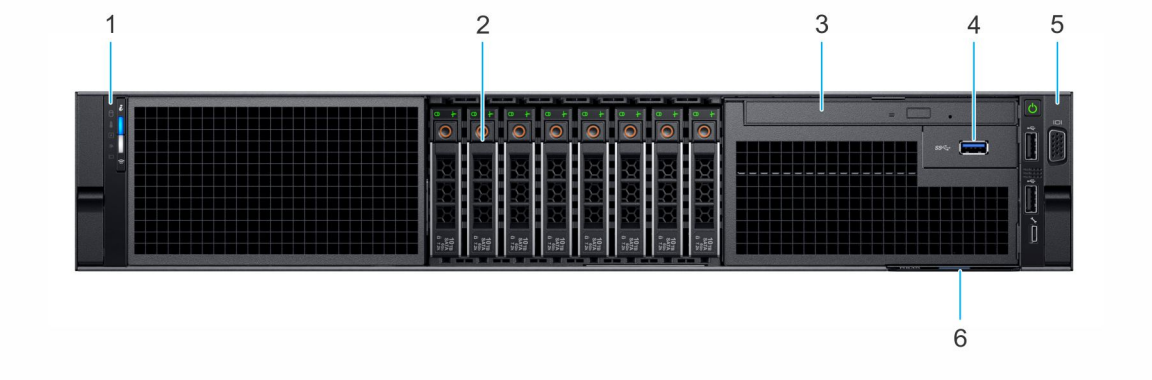



**Figure 2. Front view 8 x 2.5-inch drive system**

| | | | |
|---|---|---|---|
| 1 | Left control panel | 2 | Drive slots |
| 3 | Optical drive (Optional) | 4 | USB 3.0 port (Optional) |
| 5 | Right control panel | 6 | Service Tag |

For more information about the ports, see the Technical Specifications section.

# Control panels

The control panels allow you to manually control the inputs to the server.

## Left control panel

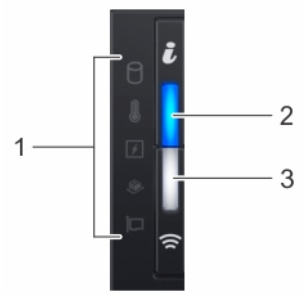



**Figure 3. Left control panel view (with optional iDRAC Quick Sync 2.0 indicator)**

| | | | |
|---|---|---|---|
| 1 | Status LED indicators | 2 | System health and system ID indicator |
| 3 | iDRAC Quick Sync 2 wireless indicator (optional) | | |

**NOTE: iDRAC Quick Sync 2 feature allows you to manage your system using mobile devices. This feature is only available on certain configurations. For more information about the feature, see the Integrated Dell Remote Access Controller User's Guide at Dell.com/idracmanuals.**

## Right control panel view

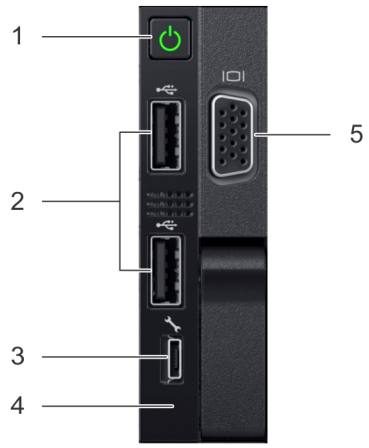



**Figure 4. Right control panel view**

| | | | |
|---|---|---|---|
| 1 | Power button | 2 | USB 2.0 port (2) |
| 3 | iDRAC Direct port | 4 | iDRAC Direct LED |
| 5 | VGA port | | |

**NOTE: For more information on the ports, see the Technical Specifications section.**

# LCD panel

The LCD panel provides system information, status, and error messages to indicate if the system is functioning correctly or requires attention. The LCD panel can also be used to configure or view the system's iDRAC IP address. For more information about error messages, see the *Dell Event and Error Messages Reference Guide* at Dell.com/openmanagemanuals > OpenManage software.

The LCD panel is available only on the optional front bezel. The optional front bezel is hot pluggable.

The statuses and conditions of the LCD panel are outlined here:

- The LCD backlight is white during normal operating conditions.
- When the system needs attention, the LCD backlight turns amber, and displays an error code followed by descriptive text.

  **NOTE: If the system is connected to a power source and an error is detected, the LCD turns amber regardless of whether the system is turned on or off.**
- When the system turns off and there are no errors, LCD enters the standby mode after five minutes of inactivity. Press any button on the LCD to turn it on.
- If the LCD panel stops responding, remove the bezel and reinstall it. If the problem persists, see Getting help.
- The LCD backlight remains off if LCD messaging is turned off using the iDRAC utility, the LCD panel, or other tools.

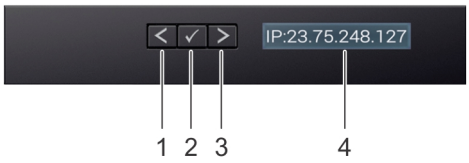



**Figure 5. LCD panel features**

**Table 1. LCD panel features**

| Item | Button or display | Description |
|---|---|---|
| 1 | Left | Moves the cursor back in one-step increments. |
| 2 | Select | Selects the menu item highlighted by the cursor. |
| 3 | Right | Moves the cursor forward in one-step increments.<br>During message scrolling:<br>· Press and hold the right button to increase scrolling speed.<br>· Release the button to stop.<br>**NOTE: The display stops scrolling when the button is released. After 45 seconds of inactivity, the display starts scrolling.** |
| 4 | LCD display | Displays system information, status, and error messages or iDRAC IP address. |

# Viewing Home screen

The **Home** screen displays user-configurable information about the system. This screen is displayed during normal system operation when there are no status messages or errors. When the system turns off and there are no errors, LCD enters the standby mode after five minutes of inactivity. Press any button on the LCD to turn it on.

1 To view the **Home** screen, press one of the three navigation buttons (Select, Left, or Right).

2 To navigate to the **Home** screen from another menu, complete the following steps:

a Press and hold the navigation button till the up arrow is displayed.

b Navigate to the **Home** icon using the up arrow .

c Select the **Home** icon.

d On the **Home** screen, press the **Select** button to enter the main menu.

# Setup menu

**NOTE: When you select an option in the Setup menu, you must confirm the option before proceeding to the next action.**

| Option | Description |
|---|---|
| iDRAC | Select **DHCP** or **Static IP** to configure the network mode. If **Static IP** is selected, the available fields are **IP**, **Subnet (Sub)**, and **Gateway (Gtw)**. Select **Setup DNS** to enable DNS and to view domain addresses. Two separate DNS entries are available. |
| Set error | Select **SEL** to view LCD error messages in a format that matches the IPMI description in the SEL. This enables you to match an LCD message with an SEL entry. |

| Option | Description |
|---|---|
| | Select **Simple** to view LCD error messages in a simplified user-friendly description. For more information about error messages, see the *Dell Event and Error Messages Reference Guide* at **Dell.com/openmanagemanuals** > **OpenManage software**. |
| Set home | Select the default information to be displayed on the **Home** screen. See View menu section for the options and option items that can be set as the default on the **Home** screen. |

## View menu

**NOTE: When you select an option in the View menu, you must confirm the option before proceeding to the next action.**

| Option | Description |
|---|---|
| iDRAC IP | Displays the **IPv4** or **IPv6** addresses for iDRAC9. Addresses include **DNS** (**Primary** and **Secondary**), **Gateway**, **IP**, and **Subnet** (IPv6 does not have Subnet). |
| MAC | Displays the MAC addresses for **iDRAC**, **iSCSI**, or **Network** devices. |
| Name | Displays the name of the **Host**, **Model**, or **User String** for the system. |
| Number | Displays the **Asset tag** or the **Service tag** for the system. |
| Power | Displays the power output of the system in BTU/hr or Watts. The display format can be configured in the **Set home** submenu of the **Setup** menu. |
| Temperature | Displays the temperature of the system in Celsius or Fahrenheit. The display format can be configured in the **Set home** submenu of the **Setup** menu. |

# Back view of the system

The back view displays the features available on the back of the system.

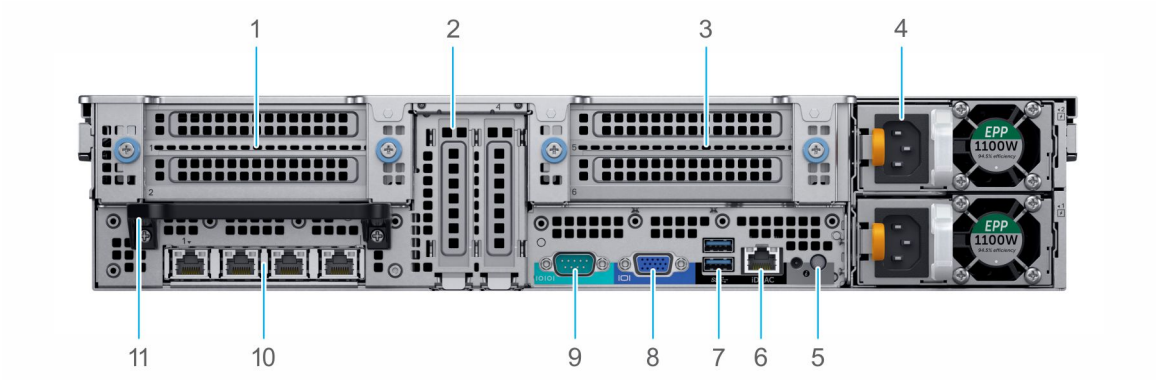



**Figure 6. Back view of the 24 x 2.5-inch drive system**

| | | | |
|---|---|---|---|
| 1 | Full-height PCIe expansion card slots (Slot 1 and 2) | 2 | Half-height PCIe expansion card slots (Slot 3 and 4) |
| 3 | Full-height PCIe expansion card slots (Slot 5 and 6) | 4 | Power supply units (2) |
| 5 | System identification button | 6 | iDRAC9 dedicated port |
| 7 | USB 3.0 ports (2) | 8 | VGA port |
| 9 | Serial port | 10 | NIC ports (4) |
| 11 | Rear handle | | |

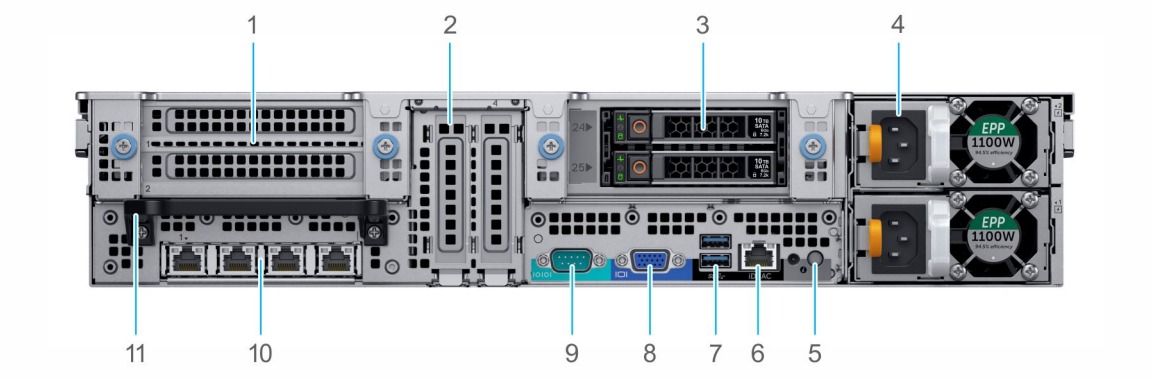



**Figure 7. Back view of the 24 x 2.5-inch + 2 x 2.5-inch (rear) drive system**

| | | | |
|---|---|---|---|
| 1 | Full-height PCIe expansion card slots (Slot 1 and 2) | 2 | Half-height PCIe expansion card slots (Slot 3 and 4) |
| 3 | Rear drives (2) | 4 | Power supply units (2) |
| 5 | System identification button | 6 | iDRAC9 dedicated port |
| 7 | USB 3.0 ports (2) | 8 | VGA port |
| 9 | Serial port | 10 | NIC ports (4) |
| 11 | Rear handle | | |

**NOTE: For more information about the ports and connectors, see the Technical Specifications section.**

# Inside the system

**NOTE: Components that are hot swappable have orange touch points and the components that are not hot swappable have blue touch points.**

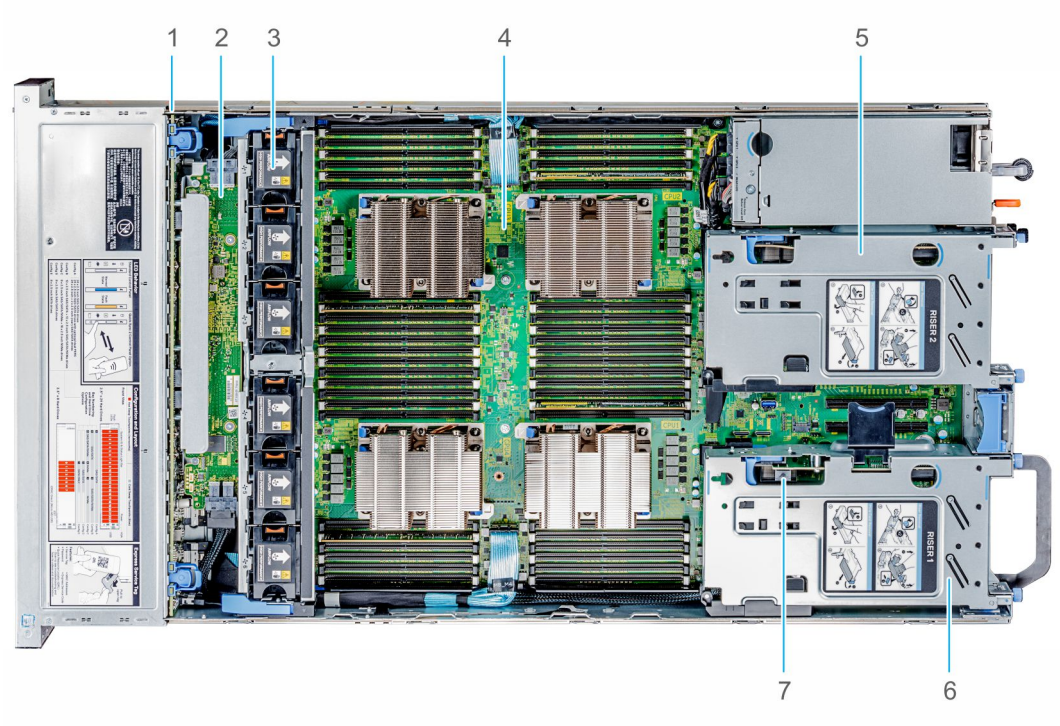



**Figure 8. Inside the system without rear drive cage**

| | | | |
|---|---|---|---|
| 1 | Drive backplane | 2 | SAS Expander board |
| 3 | Cooling fans (6) | 4 | System board |
| 5 | Full-height expansion card Riser 2 | 6 | Full-height expansion card Riser 1 |
| 7 | Intrusion switch | | |

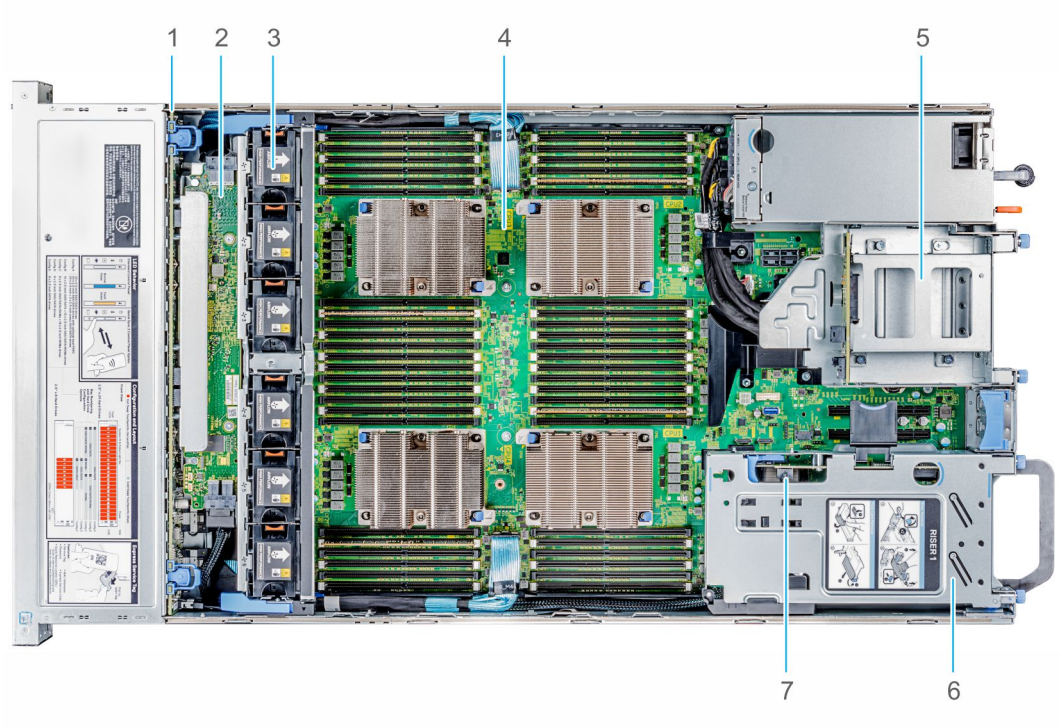


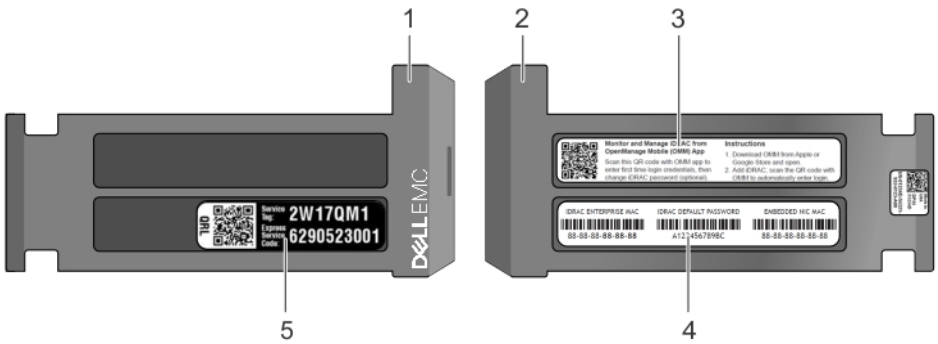

**Figure 9. Inside the system with rear drive cage**

| | | | |
|---|---|---|---|
| 1 | Drive backplane | 2 | SAS Expander board |
| 3 | Cooling fans (6) | 4 | System board |
| 5 | Drive cage (rear) | 6 | Full-height expansion card Riser 1 |
| 7 | Intrusion switch | | |

# Locating the Service Tag of your system

You can identify your system using the unique Express Service Code and Service Tag. Pull out the information tag in front of the system to view the Express Service Code and Service Tag. Alternatively, the information may be on a sticker on the chassis of the system. The mini Enterprise Service Tag (EST) is found on the back of the system. This information is used by Dell to route support calls to the appropriate personnel.

**Figure 10. Locating Service Tag of your system**




| | |
|---|---|
| 1 | Information tag (top view) |
| 2 | Information tag (bottom view) |
| 3 | OpenManage Mobile (OMM) label (optional) |

4 iDRAC MAC address and iDRAC secure password label

**NOTE: If you have opted for secure default access to iDRAC, the iDRAC secure default password is available on the back of the system Information tag. This section of label will be blank, if you have not opted for secure default access to iDRAC, then the default user name and password are root and calvin.**

5 Service Tag

# 2

# Technical specifications

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

Topics:

# Chassis dimensions

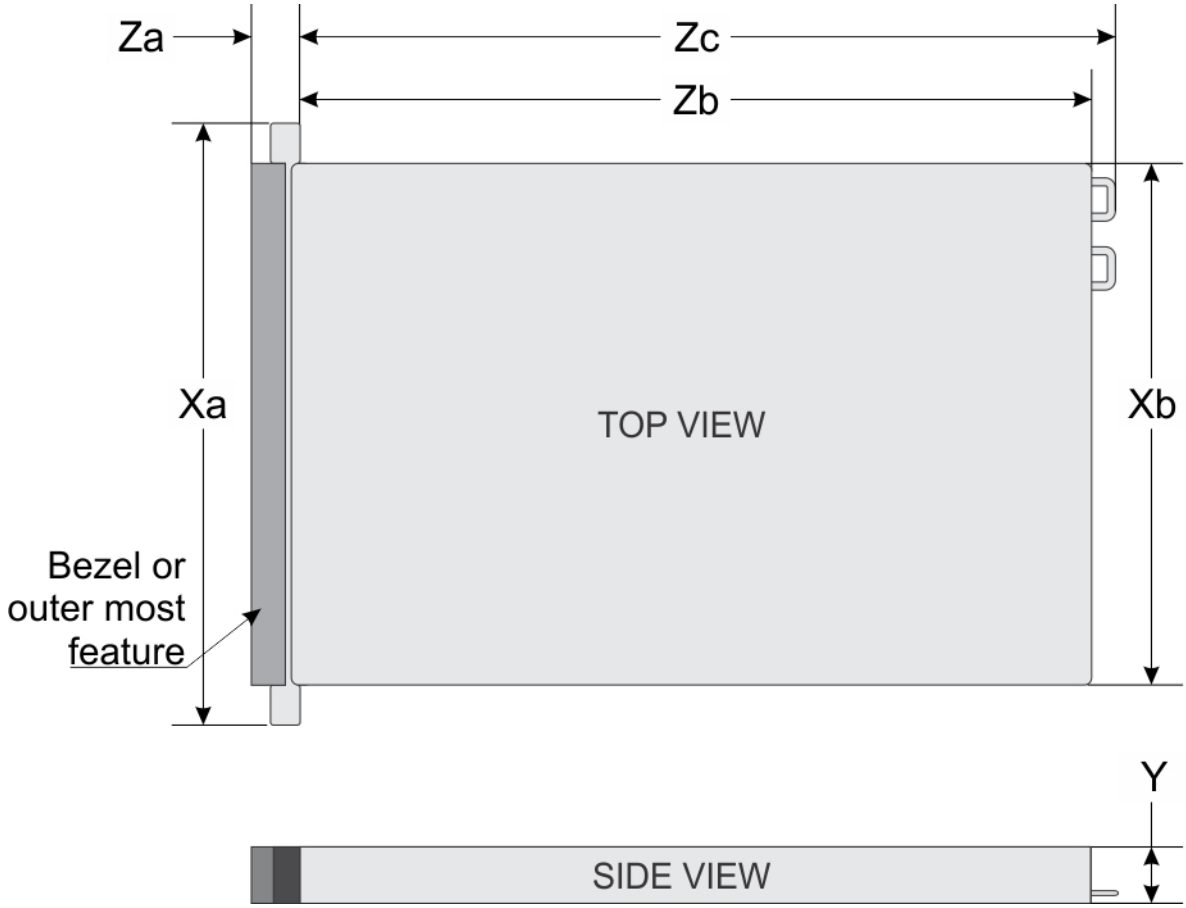



**Figure 11. Dimensions of PowerEdge R840 system**

**Table 2. Dimensions of PowerEdge R840 system**

| Xa | Xb (without brackets) | Xb (w brackets) | Y | Za (with bezel) | Za (without bezel) | Zb* | Zc (with PSU handle) | Zc (with chassis rear wall handle) |
|---|---|---|---|---|---|---|---|---|
| 482 mm (18.97 inches) | 434 mm (17.08 inches) | 444.0 (17.48 inches) | 86.8 mm (3.41 inches) | 37.84 mm (1.41 inches) | 23.9 mm (0.94 inches) | 812 mm (31.96 inches) | 842 mm (33.14 inches) | 902 mm (35.51 inches) |

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

# Chassis weight

**Table 3. Chassis weight**

| System | Maximum weight (with all drives/SSDs) |
|---|---|
| 2.5 inch | 36.6 kg (80.68 lb) |

# Processor specifications

The PowerEdge R840 system supports four processors - Intel Xeon Scalable Processor family.

# PSU specifications

The PowerEdge R840 system supports up to two AC or DC power supply units (PSUs).

**Table 4. PSU specifications**

| PSU | Class | Heat dissipation (maximum) | Frequency | Voltage | High line 200V–240 V | Low line 100 V– 140 V | DC | Current |
|---|---|---|---|---|---|---|---|---|
| 750 W AC | Platinum | 2891 BTU/hr | 50/60 Hz | 100–240 V AC, autoranging | 750 W | 750 W | NA | 10 A-5 A |
| 750 W AC | Titanium | 2843 BTU/hr | 50/60 Hz | 200–240 V AC, autoranging | 750 W | NA | NA | 5 A |
| 750 W Mixed Mode HVDC (for China only) | Platinum | 2891 BTU/hr | 50/60 Hz | 100–240 V AC, autoranging | 750 W | 750 W | NA | NA |
| | N/A | 2891 BTU/hr | N/A | 240 V DC, autoranging | NA | NA | 750 W | 4.5 A |
| 1100 W AC | Platinum | 4100 BTU/hr | 50/60 Hz | 100–240 V AC, autoranging | 1100 W | 1050 W | NA | 12 A-6.5 A |
| 1100 W DC | N/A | 4416 BTU/hr | N/A | –(48–60) V DC, autoranging | NA | NA | 1100 W | 32 A |
| 1100 W 10 A-5 A Mixed Mode HVDC (for China and Japan only) | Platinum | 4100 BTU/hr | 50/60 Hz | 100–240 V AC, autoranging | 1100 W | 1050 W | NA | 12 A-6.5 A |
| | N/A | 4100 BTU/hr | N/A | 200–380 V DC, autoranging | NA | NA | 1100 W | 6.4 A-3.2 A |
| 1600 W AC | Platinum | 6000 BTU/hr | 50/60 Hz | 100–240 V AC, autoranging | 1600 W | 800 W | NA | 10 A |
| 2000 W AC | Platinum | 7500 BTU/hr | 50/60 Hz | 100–240 V AC, autoranging | 2000 W | 1000 W | NA | 11.5 A |
| 2400 W AC | Platinum | 9000 BTU/hr | 50/60 Hz | 100–240 V AC, autoranging | 2400 W | 1400 W | NA | 16 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.**

**NOTE: PSUs rated for 1100 W AC or 1100 W Mixed Mode HVDC and higher require high-line voltage (200–240 V AC) to supply their rated capacity.**

# System battery specifications

The PowerEdge R840 system supports CR 2032 3.0-V lithium coin cell system battery.

# Expansion card riser specifications

The PowerEdge R840 system supports up to six PCI express (PCIe) generation 3 expansion cards that can be installed on the system board and expansion card risers. The following table provides detailed information about the expansion card riser specifications:

**Table 5. Expansion card riser specifications**

| PCIe slot | Riser | Processor connection | Height | Length | Slot width |
|---|---|---|---|---|---|
| 1 | X8 PCIe Riser 1 | Processor 1 | Full height | Half length | x8 |
| 2 | X16 PCIe Riser 1 | Processor 1 | Full height | Full length | x16 |
| | X8 PCIe Riser 1 | Processor 1 | Full height | Half length | x8 |
| 3 | On the system board | Processor 1 | Low profile | Half length | x16 |
| 4 | On the system board | Processor 2 | Low profile | Half length | x16 |
| 5 | X8 PCIe Riser 2 | Processor 2 | Full height | Half length | x8 |
| 6 | X16 PCIe Riser 2 | Processor 2 | Full height | Full length | x16 |
| | X8 PCIe Riser 2 | Processor 2 | Full height | Half length | x8 |

# Memory specifications

The PowerEdge R840 system supports up to 48 288-pins RDIMMs (up to 32 GB), LRDIMMs (up to 128 GB), and NVDIMM-Ns (16 GB) supported with speeds of 2667 MT/s, 2400 MT/s, 2133 MT/s, and 1866 MT/s with support for memory optimized operation.

**Table 6. Memory specifications**

| DIMM type | DIMM rank | DIMM capacity | Dual processors | | Quad processors | |
|---|---|---|---|---|---|---|
| | | | Minimum RAM | Maximum RAM | Minimum RAM | Maximum RAM |
| LRDIMM | Octal rank | 128 GB | 256 GB | 3072 GB | 512 GB | 6144 GB |
| LRDIMM | Quad rank | 64 GB | 128 GB | 1536 GB | 256 GB | 3072 GB |
| RDIMM | Dual rank | 32 GB | 64 GB | 768 GB | 128 GB | 1536 GB |
| RDIMM | Dual rank | 16 GB | 32 GB | 384 GB | 64 GB | 768 GB |
| RDIMM | Single rank | 8 GB | 16 GB | 192 GB | 32 GB | 384 GB |
| NVDIMM-N | Single rank | 16 GB | RDIMM: 192 GB | RDIMM: 384 GB | RDIMM: 384 GB | RDIMM: 1152 GB |
| | | | NVDIMM-N: 16 GB | NVDIMM-N: 192 GB | NVDIMM-N: 16 GB | NVDIMM-N: 192 GB |

**NOTE: Do not mix 8 GB RDIMMs and 16 GB NVDIMM-Ns.**

**NOTE: Do not mix 64 GB LRDIMMs and 128 GB LRDIMMs.**

**Table 7. DIMM blank population rules**

| Processor configuration | Processor 1 | Processor 2 | Processor 3 | Processor 4 |
|---|---|---|---|---|
| Dual processor | Required | Required | Not required | Not required |
| Quad processor | Required | Required | Required | Required |

# RAID controller specifications

The PowerEdge R840 system supports:

- Internal storage controller cards: PowerEdge RAID Controller (PERC) H330, PERC H730P, H740P, HBA330, and Boot Optimized Server Storage (BOSS-S1)
- External storage controller cards: S140 and 12 Gbps SAS HBA

# Drive specifications

## Hard drives

The PowerEdge R840 system supports SAS, SATA, Nearline SAS hard drives/SSDs, or NVMe drives.

**Table 8. Supported drive options for PowerEdge R840 system**

| Chassis options | Configurations |
|---|---|
| Eight hard drive chassis | Up to eight 2.5-inch SAS/SATA front accessible drives in slots 0–7 |
| | Up to eight 2.5-inch SATA front accessible drives in slots 0–7 |
| Twenty-four drive chassis | Up to twenty-four 2.5-inch SAS/SATA front accessible drives in slots 0–23 |
| | Up to twelve 2.5-inch SAS/SATA front accessible drives in slots 0–11 + twelve SAS/SATA/NVMe front accessible drives in slots 12–23 |
| | Up to twenty-four 2.5-inch NVMe front accessible drives in slots 0–23 |
| Twenty four front + two rear drive chassis | Up to twenty-four 2.5 inch SAS/SATA or up to 24 NVMe front accessible drives in slots 0–23 + up to two 2.5-inch SAS/SATA rear accessible drives |

**NOTE: Hot swap for NVMe drives is not supported for your system. Ensure that you turn off the system before installing or removing the NVMe drives.**

## Optical drives

The PowerEdge R840 system supports one optional slim SATA DVD-ROM drive or DVD +/-RW drive.

**NOTE: DVD devices support only data.**

# Tape drives

The PowerEdge R840 system supports external tape backup devices.

**NOTE: The PowerEdge R840 system does not support internal tape drives.**

Supported external tape drives:

- External RD1000 USB
- External LTO-5, LTO-6,LTO-7, and 6 Gb SAS tape drives
- 114X rack mount chassis with LTO-5, LTO-6, and LTO-7, 6 Gb SAS tape drives
- TL1000 with LTO-5, LTO-6, and LTO-7 6 Gb SAS tape drives
- TL2000 with LTO-5, LTO-6, and LTO-7 6 Gb SAS tape drives
- TL2000 with LTO-5, LTO-6, and LTO-7 8 Gb FC tape drives
- TL4000 with LTO-5, LTO-6, and LTO-7 6 Gb SAS tape drives
- TL4000 with LTO-5, LTO-6, and LTO-7 8 Gb FC tape drives
- ML6000 with LTO-5, LTO-6, 6 Gb SAS tape drives
- ML6000 with LTO-5, LTO-6, LTO-7 8 Gb FC tape drives

# Ports and connectors specifications

## USB ports

The PowerEdge R840 system supports both USB 2.0-compliant ports and USB 3.0-compliant ports:

The following table provides more information about the USB specifications:

**Table 9. USB specifications**

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

## NIC ports

The PowerEdge R840 system supports up to four Network Interface Controller (NIC) ports that are integrated on the network daughter card (NDC), and are available in the following configurations:

- Four RJ-45 ports that support 10 Mbps, 100 Mbps, and 1000 Mbps
- Four RJ-45 ports that support 100 M, 1 G, and 10 Gbps
- Four RJ-45 ports, where two ports support maximum of 10 G and the other two ports maximum of 1 G

- Two RJ-45 ports that support up to 1 Gbps and 2 SFP+ ports that support up to 10 Gbps
- Four SFP+ ports that support up to 10 Gbps
- Two SFP28 ports that support up to 25 Gbps

# VGA ports

The Video Graphic Array (VGA) port enables you to connect the system to a VGA display.

The PowerEdge R840 system supports two 15-pin VGA ports, one each, on the front and back of the system.

# Serial connector

The serial connector on the rear of system for serial device connection and console redirection.

The PowerEdge R840 system supports one serial connector on the back panel, which is a 9-pin connector, Data Terminal Equipment (DTE), 16550-compliant.

# IDSDM or vFlash module

The PowerEdge R840 system supports optional Internal Dual SD module (IDSDM) or vFlash module. In 14th generation of PowerEdge servers, IDSDM or vFlash module is combined into a single card module, and are available in these configurations:

- vFlash or
- vFlash and IDSDM

The IDSDM or vFlash module is located in a slot on the back of the system. The module supports three microSD cards; two cards for IDSDM and one card for vFlash. The following capacities are supported:

- IDSDM: 16 GB, 32 GB, 64 GB
- vFlash: 16 GB

**NOTE: There are two dip switches on the IDSDM or vFlash module for write-protection.**

**NOTE: One IDSDM card slot is dedicated for redundancy.**

**NOTE: Use Dell branded microSD cards associated with the IDSDM or vFlash configured systems.**

# Video specifications

The PowerEdge R840 system supports integrated Matrox G200eW3 graphics controller with 16 MB of video frame buffer.

**Table 10. 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 |

| Resolution | Refresh rate (Hz) | Color depth (bits) |
|---|---|---|
| 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 |

**NOTE: 1920 x 1080 and 1920 x 1200 resolutions are only supported in reduced blanking mode.**

# Environmental specifications

**NOTE: For more information about environmental measurements for specific system configurations, see Dell.com/environmental_datasheets.**

### Table 11. Temperature specifications

| Temperature | Specifications |
|---|---|
| Storage | –40–65°C (–40 °F–149°F) |
| Continuous operation (for altitude less than 950 m or 3117 ft) | 10–35°C (50 °F–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 (36°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 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 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 specification

| 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). |
| 40–45 °C (104 °F–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 °C–35°C (50 °F–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.<br>**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.**<br>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.<br>**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.** |

| Expanded operating temperature | Specifications |
|---|---|
| | 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 LCD panel and in the System Event Log.**

## Expanded operating temperature restrictions

- The operating temperature is specified for a maximum altitude of 950 m for Fresh Air Cooling.
- Do not perform cold start below 5°C due to hard drive constraints.
- Apache Pass DIMM, NVDIMM, PCIe SSD, and NVMe are not supported.
- Tape Backup Unit (TBU) is not supported in Fresh Air.
- LRDIMM >32 GB is not supported in x4 sockets configuration.
- Rear installed drives and GPU configuration are not supported.
- Redundant power supplies are required.
- Non Dell qualified peripheral cards and /or peripheral cards greater than 25 W are not supported.
- Intel FPGA is not supported.
- 205 W SKUs, 200W/18C, 165W/12C, and 150W_8C processor are not supported on all x4 socket processor configurations.
- 165 W SKUs, 130W/8C, 115W/6C, and 105W_4C are not supported on the x4 socket processor configurations except front x8 inch SAS/SATA drives configurations.

## Ambient temperature limitations

**NOTE: The ambient temperature limit must be adhered to ensure proper cooling and to avoid excess processor throttling, which may impact system performance.**

**Table 19. Configuration-based ambient temperature restrictions**

| R840 configurations | | Backplane | 8 x 2.5 inch SAS/SATA | 24 x 2.5 inch SAS/ SATA(Expander) + 2x 2.5 inch(rear) | 24 x 2.5-inch NVMe(Expander) | 24 x 2.5 inch SAS/SATA/ NVMe(Expander) |
|---|---|---|---|---|---|---|
| | | No. Of processors supported | 4 | 4 | 4 | 2 |
| | | Processor heat sink | 1U | 1U | 1U | 1U |
| | | No. Of GPUs supported | >1DW/SW GPU | >1DW/SW GPU | >1DW/SW GPU | >1DW/SW GPU |
| Supported processor | Processor Thermal Design Power (TDP) | Core count | Ambient support | Ambient support | Ambient support | Ambient support |

| | | | | | | |
|---|---|---|---|---|---|---|
| Intel Xeon Platinum 8176 | 165 W | 28 | C35 | C30 | C30 | C35 |
| Intel Xeon Platinum 8170 | 165 W | 26 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 6150 | 165 W | 18 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 6134 | 130 W | 8 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 6128 | 115 W | 6 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 5122 | 105 W | 4 | C35 | C30 | C30 | C35 |
| Intel Xeon Platinum 8156 | 105 W | 4 | C35 | C30 | C30 | C35 |
| Intel Xeon Platinum 8164 | 150 W | 26 | C35 | C30 | C30 | C35 |
| Intel Xeon Platinum 8160 | 150 W | 24 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 6148 | 150 W | 20 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 6142 | 150 W | 16 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 6136 | 150 W | 12 | C35 | C30 | C30 | C35 |
| Intel Xeon Platinum 8158 | 150 W | 12 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 6152 | 140 W | 22 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 6140 | 140 W | 18 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 6132 | 140 W | 14 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 6138 | 125 W | 20 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 6130 | 125 W | 16 | C35 | C30 | C30 | C35 |
| Intel Xeon Platinum 8153 | 125 W | 16 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 6126 | 125 W | 12 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 5120 | 105 W | 14 | C35 | C30 | C30 | C35 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Intel Xeon Gold 5118 | 105 W | 12 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 5115 | 85 W | 10 | C35 | C30 | C30 | C35 |

**Table 20. Configuration-based ambient temperature restrictions**

| **R840 configurations** | | **Backplane** | **8 x 2.5 inch SAS/SATA** | **24 x 2.5 inch SAS/ SATA(Expander) + 2x 2.5 inch(rear)** | **24 x 2.5-inch NVMe(Expander )** | **24 x 2.5 inch SAS/SATA/ NVMe(Expander )** |
|---|---|---|---|---|---|---|
| | | **No. Of processors supported** | **4** | **4** | **4** | **2** |
| | | **Processor heat sink** | **1U** | **1U** | **1U** | **1U** |
| | | **No. Of GPUs supported** | **Non-GPU** | **Non-GPU** | **Non-GPU** | **Non-GPU** |
| **Supported processor** | **Processor Thermal Design Power (TDP)** | **Core count** | **Ambient support** | **Ambient support** | **Ambient support** | **Ambient support** |
| Intel Xeon Platinum 8180 | 205 W | 28 | C35 | C30 | C30 | C35 |
| Intel Xeon Platinum 8168 | 205 W | 24 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 6154 | 200 W | 18 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 6146 | 165 W | 12 | C35 | C30 | C30 | C35 |
| Intel Xeon Gold 6144 | 150 W | 8 | C35 | C30 | C30 | C35 |
| Intel Xeon Platinum 8176 | 165W | 28 | C35 | C35 | C30 | C35 |
| Intel Xeon Platinum 8170 | 165 W | 26 | C35 | C35 | C30 | C35 |
| Intel Xeon Gold 6150 | 165 W | 18 | C35 | C35 | C30 | C35 |
| Intel Xeon Gold 6134 | 130 W | 8 | C35 | C35 | C35 | C35 |
| Intel Xeon Gold 6128 | 115 W | 8 | C35 | C35 | C35 | C35 |
| Intel Xeon Gold 5122 | 105 W | 6 | C35 | C35 | C35 | C35 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Intel Xeon Platinum 8156 | 105 W | 4 | C35 | C35 | C35 | C35 |
| Intel Xeon Platinum 8164 | 150 W | 4 | C35 | C35 | C35 | C35 |
| Intel Xeon Platinum 8160 | 150 W | 26 | C35 | C35 | C35 | C35 |
| Intel Xeon Gold 6148 | 150 W | 24 | C35 | C35 | C35 | C35 |
| Intel Xeon Gold 6142 | 150 W | 20 | C35 | C35 | C35 | C35 |
| Intel Xeon Gold 6136 | 150W | 16 | C35 | C35 | C35 | C35 |
| Intel Xeon Platinum 8158 | 150 W | 12 | C35 | C35 | C35 | C35 |
| Intel Xeon Gold 6152 | 140 W | 12 | C35 | C35 | C35 | C35 |
| Intel Xeon Gold 6140 | 140 W | 22 | C35 | C35 | C35 | C35 |
| Intel Xeon Gold 6132 | 140 W | 18 | C35 | C35 | C35 | C35 |
| Intel Xeon Gold 6138 | 125 W | 20 | C35 | C35 | C35 | C35 |
| Intel Xeon Gold 6130 | 125 W | 14 | C35 | C35 | C35 | C35 |
| Intel Xeon Platinum 8153 | 125 W | 20 | C35 | C35 | C35 | C35 |
| Intel Xeon Gold 6126 | 125 W | 16 | C35 | C35 | C35 | C35 |
| Intel Xeon Gold 5120 | 105 W | 16 | C35 | C35 | C35 | C35 |
| Intel Xeon Gold 5118 | 105 W | 12 | C35 | C35 | C35 | C35 |
| Intel Xeon Gold 5115 | 85 W | 10 | C35 | C35 | C35 | C35 |

# 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 particulates and gaseous contamination. If the levels of particulates or gaseous pollution exceed the specified limitations and result in equipment damage or failure, you must rectify the environmental conditions. Remediation of environmental conditions is the responsibility of the customer.

### Table 21. 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.<br><br>**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.**<br><br>**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.<br><br>**NOTE: This condition applies to data center and non-data center environments.** |
| Corrosive dust | • Air must be free of corrosive dust.<br>• Residual dust present in the air must have a deliquescent point less than 60% relative humidity.<br><br>**NOTE: This condition applies to data center and non-data center environments.** |

### Table 22. 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.**

3

# System diagnostics and indicator codes

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

## Status LED indicators

**NOTE: The indicators display solid amber if any error occurs.**

**Table 23. Status LED indicators and descriptions**

| Icon | Description | Condition | Corrective action |
|---|---|---|---|
| | Drive indicator | The indicator turns solid amber if there is a drive error. | • Check the System Event Log to determine if the drive has an error.<br>• Run the appropriate Online Diagnostics test. Restart the system and run embedded diagnostics (ePSA).<br>• If the drives are configured in a RAID array, restart the system, and enter the host adapter configuration utility program. |
| | Temperature indicator | The indicator turns solid amber if the system experiences a thermal error (for example, the ambient temperature is out of range or there is a fan failure). | Ensure that none of the following conditions exist:<br>• A cooling fan has been removed or has failed.<br>• System cover, air shroud, memory module blank, or back filler bracket is removed.<br>• Ambient temperature is too high.<br>• External airflow is obstructed.<br>If the problem persists, see Getting help. |
| | Electrical indicator | The indicator turns solid amber if the system experiences an electrical error (for example, voltage out of range, or a failed power supply unit (PSU) or voltage regulator). | Check the System Event Log or system messages for the specific issue. If it is due to a problem with the PSU, check the LED on the PSU. Reseat the PSU.<br>If the problem persists, see Getting help. |
| | Memory indicator | The indicator turns solid amber if a memory error occurs. | Check the System Event Log or system messages for the location of the failed memory. Reseat the memory module.<br>If the problem persists, see Getting help. |
| | PCIe indicator | The indicator turns solid amber if a PCIe card experiences an error. | Restart the system. Update any required drivers for the PCIe card. Reinstall the card.<br>If the problem persists, see Getting help. |

# System health and system ID indicator codes

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

**Figure 12. System health and system ID indicators**

**Table 24. 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 or the LCD panel, if available on the bezel, for specific error messages. For more information about error messages, see the *Dell Event and Error Messages Reference Guide* at **Dell.com/openmanagemanuals** > **OpenManage software**. |

# iDRAC Quick Sync 2 indicator codes

iDRAC Quick Sync 2 module (optional) is located on the left control panel of your system.

**Figure 13. iDRAC Quick Sync 2 indicators**

**Table 25. iDRAC Quick Sync 2 indicators and descriptions**

| iDRAC Quick Sync 2 indicator code | Condition | Corrective action |
|---|---|---|
| Off (default state) | Indicates that the iDRAC Quick Sync 2 feature is turned off. Press the iDRAC Quick Sync 2 button to turn on the iDRAC Quick Sync 2 feature. | If the LED fails to turn on, reseat the left control panel flex cable and check. If the problem persists, see the Getting help section. |
| Solid white | Indicates that iDRAC Quick Sync 2 is ready to communicate. Press the iDRAC Quick Sync 2 button to turn off. | If the LED fails to turn off, restart the system. If the problem persists, see the Getting help section. |

| iDRAC Quick Sync 2 indicator code | Condition | Corrective action |
|---|---|---|
| Blinks white rapidly | Indicates data transfer activity. | If the indicator continues to blink indefinitely, see the Getting help section. |
| Blinks white slowly | Indicates that firmware update is in progress. | If the indicator continues to blink indefinitely, see the Getting help section. |
| Blinks white five times rapidly and then turns off | Indicates that the iDRAC Quick Sync 2 feature is disabled. | Check if iDRAC Quick Sync 2 feature is configured to be disabled by iDRAC. If the problem persists, see the Getting help section. For more information, see *Integrated Dell Remote Access Controller User's Guide* at **Dell.com/idracmanuals** or *Dell OpenManage Server Administrator User's Guide* at **Dell.com/openmanagemanuals**. |
| Solid amber | Indicates that the system is in fail-safe mode. | Restart the system. If the problem persists, see the Getting help section. |
| Blinking amber | Indicates that the iDRAC Quick Sync 2 hardware is not responding properly. | Restart the system. If the problem persists, see the Getting help section. |

# iDRAC Direct LED indicator codes

The iDRAC Direct LED indicator lights up to indicate that the port is connected and is being used as a part of the iDRAC subsystem.

You can configure iDRAC Direct by using a USB to micro USB (type AB) cable, which you can connect to your laptop or tablet. The following table describes iDRAC Direct activity when the iDRAC Direct port is active:

**Table 26. iDRAC Direct LED indicator codes**

| iDRAC Direct LED indicator code | Condition |
|---|---|
| Solid green for two seconds | Indicates that the laptop or tablet is connected. |
| Flashing green (on for two seconds and off for two seconds) | Indicates that the laptop or tablet connected is recognized. |
| Turns off | Indicates that the laptop or tablet is unplugged. |

# 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.

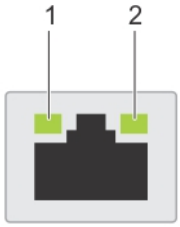



**Figure 14. NIC indicator codes**

| | | | |
|---|---|---|---|
| 1 | link LED indicator | 2 | activity LED indicator |

**Table 27. 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. |

# Power supply unit indicator codes

AC power supply units (PSUs) have an illuminated translucent handle that serves as an indicator.

The DC PSUs have an LED that serves as an indicator.

For more information about the PSU specifications, see Technical Specifications.

For information about the event and error messages generated during POST, when a 2400W PSU is connected to a 110 V power source, see the Dell Event and Error Messages Reference Guide at Dell.com/openmanagemanuals > OpenManage software.

The indicator shows whether power is present or if a power fault has occurred.

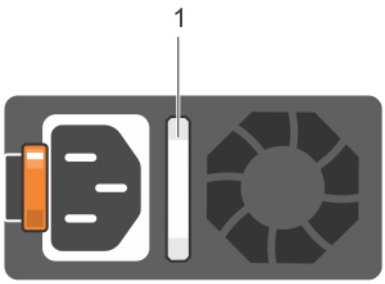



**Figure 15. AC PSU status indicator**

1 AC PSU status indicator/handle

**Table 28. AC PSU status indicator codes**

| Power indicator codes | Condition |
|---|---|
| Green | A valid power source is connected to the PSU, and the PSU is operational. |
| Blinking amber | Indicates a problem with the PSU. |
| Not illuminated | Power is not connected to the PSU. |
| Blinking green | When the firmware of the PSU is being updated, the PSU handle blinks green.<br>**CAUTION: Do not disconnect the power cable, or unplug the PSU when updating firmware. If firmware update is interrupted, the PSUs do not function.** |
| Blinking green and turns off | When hot-plugging a PSU, the PSU handle blinks green five times at a rate of 4 Hz and turns off. This indicates a PSU mismatch concerning efficiency, feature set, health status, or supported voltage.<br>**CAUTION: If two PSUs are installed, both the PSUs must have the same type of label; for example, Extended Power Performance (EPP) label. Mixing PSUs from previous generations of PowerEdge servers is not supported, even if the PSUs have the same power rating. This results in a PSU mismatch condition, or failure to turn on the system.**<br>**CAUTION: When correcting a PSU mismatch, replace only the PSU with the blinking indicator. Swapping the PSU to make a matched pair can result in an error condition and unexpected system shutdown. To change from a high output configuration to a low output configuration or conversely, you must turn off the system.**<br>**CAUTION: AC PSUs support both 240 V and 120 V input voltages except for Titanium PSUs, which support only 240 V. When two identical PSUs receive different input voltages, they can output different wattages, and trigger a mismatch.**<br>**CAUTION: If two PSUs are used, they must be of the same type and have the same maximum output power.** |

| Power indicator codes | Condition |
|---|---|
| | **CAUTION: Combining AC and DC PSUs is not supported and triggers a mismatch.** |

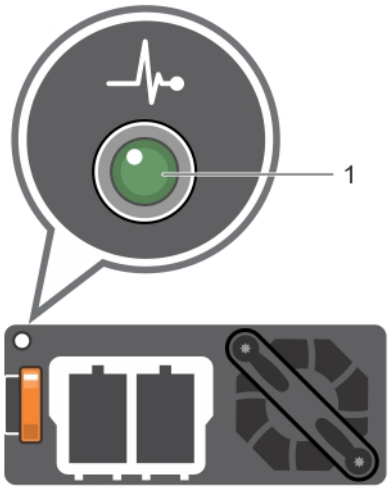



**Figure 16. DC PSU status indicator**

1 DC PSU status indicator

**Table 29. DC PSU status indicator codes**

| Power indicator codes | Condition |
|---|---|
| Green | A valid power source is connected to the PSU, and the PSU is operational. |
| Blinking amber | Indicates a problem with the PSU. |
| Not illuminated | Power is not connected to the PSU. |
| Blinking green | When hot-plugging a PSU, the PSU indicator blinks green. This indicates that there is a PSU mismatch about efficiency, feature set, health status, or supported voltage.<br>**CAUTION: If two PSUs are installed, both the PSUs must have the same type of label; for example, Extended Power Performance (EPP) label. Mixing PSUs from previous generations of PowerEdge servers is not supported, even if the PSUs have the same power rating. This results in a PSU mismatch condition, or failure to turn on the system.**<br>**CAUTION: When correcting a PSU mismatch, replace only the PSU with the blinking indicator. Swapping the PSU to make a matched pair can result in an error condition and unexpected system shutdown. To change from a High Output configuration to a Low Output configuration or conversely, you must turn off the system.**<br>**CAUTION: If two PSUs are used, they must be of the same type and have the same maximum output power.** |

| Power indicator codes | Condition |
|---|---|
| | CAUTION: **Combining AC and DC PSUs is not supported and triggers a mismatch.** |

# Drive indicator codes

Each drive carrier has an activity LED indicator and a status LED indicator. The indicators provide information about the current status of the drive. The activity LED indicator indicates whether the drive is currently in use or not. The status LED indicator indicates the power condition of the drive.


**Figure 17. Drive indicators on the drive and the mid drive tray backplane**

1 Drive activity LED indicator
2 Drive status LED indicator
3 Drive

NOTE: **If the drive is in the Advanced Host Controller Interface (AHCI) mode, the status LED indicator does not turn on.**

**Table 30. Drive indicator codes**

| Drive status indicator code | Condition |
|---|---|
| Flashes green twice per second | Identifying drive or preparing for removal. |
| Off | Drive ready for removal.<br>NOTE: **The drive status indicator remains off until all drives are initialized after the system is turned on. Drives are not ready for removal during this time.** |
| Flashes green, amber, and then turns off | Predicted drive failure. |
| Flashes amber four times per second | Drive failed. |
| Flashes green slowly | Drive rebuilding. |
| Solid green | Drive online. |
| Flashes green for three seconds, amber for three seconds, and then turns off after six seconds | Rebuild stopped. |

# Using 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.

# Dell Embedded System Diagnostics

**NOTE: The Dell Embedded System Diagnostics is also known as Enhanced Pre-boot System Assessment (ePSA) diagnostics.**

The Embedded System Diagnostics provides a set of options for particular device groups or devices allowing you to:

- Run tests automatically or in an interactive mode
- Repeat tests
- Display or save test results
- Run thorough tests to introduce additional test options to provide extra information about the failed device(s)
- View status messages that inform you if tests are completed successfully
- View error messages that inform you of problems encountered during testing

## Running the Embedded System Diagnostics from Boot Manager

Run the Embedded System Diagnostics (ePSA) if your system does not boot.

1 When the system is booting, press F11.
2 Use the up arrow and down arrow keys to select **System Utilities** > **Launch Diagnostics**.
3 Alternatively, when the system is booting, press F10, select **Hardware Diagnostics** > **Run Hardware Diagnostics**.
The **ePSA Pre-boot System Assessment** window is displayed, listing all devices detected in the system. The diagnostics starts executing the tests on all the detected devices.

## Running the Embedded System Diagnostics from the Dell Lifecycle Controller

1 As the system boots, press F10.
2 Select **Hardware Diagnostics** → **Run Hardware Diagnostics**.
The **ePSA Pre-boot System Assessment** window is displayed, listing all devices detected in the system. The diagnostics starts executing the tests on all the detected devices.

## System diagnostic controls

| Menu | Description |
|---|---|
| **Configuration** | Displays the configuration and status information of all detected devices. |
| **Results** | Displays the results of all tests that are run. |
| **System health** | Provides the current overview of the system performance. |
| **Event log** | Displays a time-stamped log of the results of all tests run on the system. This is displayed if at least one event description is recorded. |

# 4

# Documentation resources

This section provides information about the documentation resources for your system.

**Table 31. Additional documentation resources for your system**

| Task | Document | Location |
|---|---|---|
| Setting up your system | For more information about installing and securing the system into a rail, see the rail documentation included with your rail solution. | Dell.com/poweredgemanuals |
| | For information about setting up and turning on the system, see the *Getting Started Guide* document that is shipped with your system. | Dell.com/poweredgemanuals |
| Configuring your system | For information about the iDRAC features, configuring and logging in to iDRAC, and managing your system remotely, see the Integrated Dell Remote Access Controller User's Guide. | Dell.com/idracmanuals |
| | For information about installing the operating system, see the operating system documentation. | Dell.com/operatingsystemmanuals |
| | For information about understanding Remote Access Controller Admin (RACADM) subcommands and supported RACADM interfaces, see the RACADM Command Line Reference Guide for iDRAC. | Dell.com/idracmanuals |
| | For information about device drivers and to obtain the latest device drivers for your system, see the Drivers & Downloads section on the Dell Support website.<br>For information about updating drivers and firmware, see the Methods to download firmware and drivers section in this document. | Dell.com/support/drivers |
| Managing your system | For information about systems management software offered by Dell, see the Dell OpenManage Systems Management Overview Guide. | Dell.com/openmanagemanuals |
| | For information about setting up, using, and troubleshooting OpenManage, see the Dell OpenManage Server Administrator User's Guide. | Dell.com/openmanagemanuals |
| | For information about installing, using, and troubleshooting Dell OpenManage Essentials, see the Dell OpenManage Essentials User's Guide. | Dell.com/openmanagemanuals |
| | For information about installing and using Dell SupportAssist, see the Dell EMC SupportAssist Enterprise User's Guide. | Dell.com/serviceabilitytools |

| Task | Document | Location |
|---|---|---|
| | For understanding the features of Dell Lifecycle Controller, see the Dell Lifecycle Controller User's Guide. | Dell.com/idracmanuals |
| | For information about partner programs enterprise systems management, see the OpenManage Connections Enterprise Systems Management documents. | Dell.com/openmanagemanuals |
| Working with the Dell PowerEdge RAID controllers | For information about understanding the features of the Dell PowerEdge RAID controllers (PERC), Software RAID controllers, or BOSS card and deploying the cards, see the Storage controller documentation. | Dell.com/storagecontrollermanuals |
| Understanding event and error messages | For information about checking the event and error messages generated by the system firmware and agents that monitor system components, see the Dell Event and Error Messages Reference Guide. | Dell.com/openmanagemanuals > OpenManage software |
| Troubleshooting your system | For information about identifying and troubleshooting the PowerEdge server issues, see the Server Troubleshooting Guide. | Dell.com/poweredgemanuals |

To view the document listed in the documentation resources table:

1 Click the documentation link provided in the Location column in the table.

2 In the **Search all PowerEdge** field, type the product name and model number.

**NOTE: To locate the product name and model, see the front of your system.**

3 On the displayed product page, click **Manuals & documents**.

# 5

# Getting help

Topics:

- Contacting Dell
- Documentation feedback
- Accessing system information by using QRL
- Receiving automated support with SupportAssist
- Quick Resource Locator for PowerEdge R840 system

# Contacting Dell

Dell provides several online and telephone based support and service options. If you do not have an active internet connection, you can find contact information about your purchase invoice, packing slip, bill, or Dell product catalog. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical assistance, or customer service issues:

1 Go to Dell.com/support.
2 Select your country from the drop-down menu on the lower right corner of the page.
3 For customized support:
   a Enter your system Service Tag in the **Enter your Service Tag** 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.

# Documentation feedback

You can rate the documentation or write your feedback on any of our Dell EMC documentation pages and click **Send Feedback** to send your feedback.

# Accessing system information by using QRL

You can use the Quick Resource Locator (QRL) to get immediate access to the information about your system.

**Prerequisites**

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

The QRL includes the following information about your system:

- How-to videos

- Reference materials, including the Owner's Manual, LCD diagnostics, and mechanical overview
- Service Tag to quickly access the specific hardware configuration and warranty information
- A direct link to Dell to contact technical support and sales teams

**Steps**

1 Go to **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 Dell system or in the Quick Resource Locator section.

# Receiving automated support with SupportAssist

Dell EMC SupportAssist is an optional Dell EMC 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 Dell EMC.com/SupportAssist.

# Quick Resource Locator for PowerEdge R840 system


**Figure 18. Quick Resource Locator for PowerEdge R840 system**