Overview

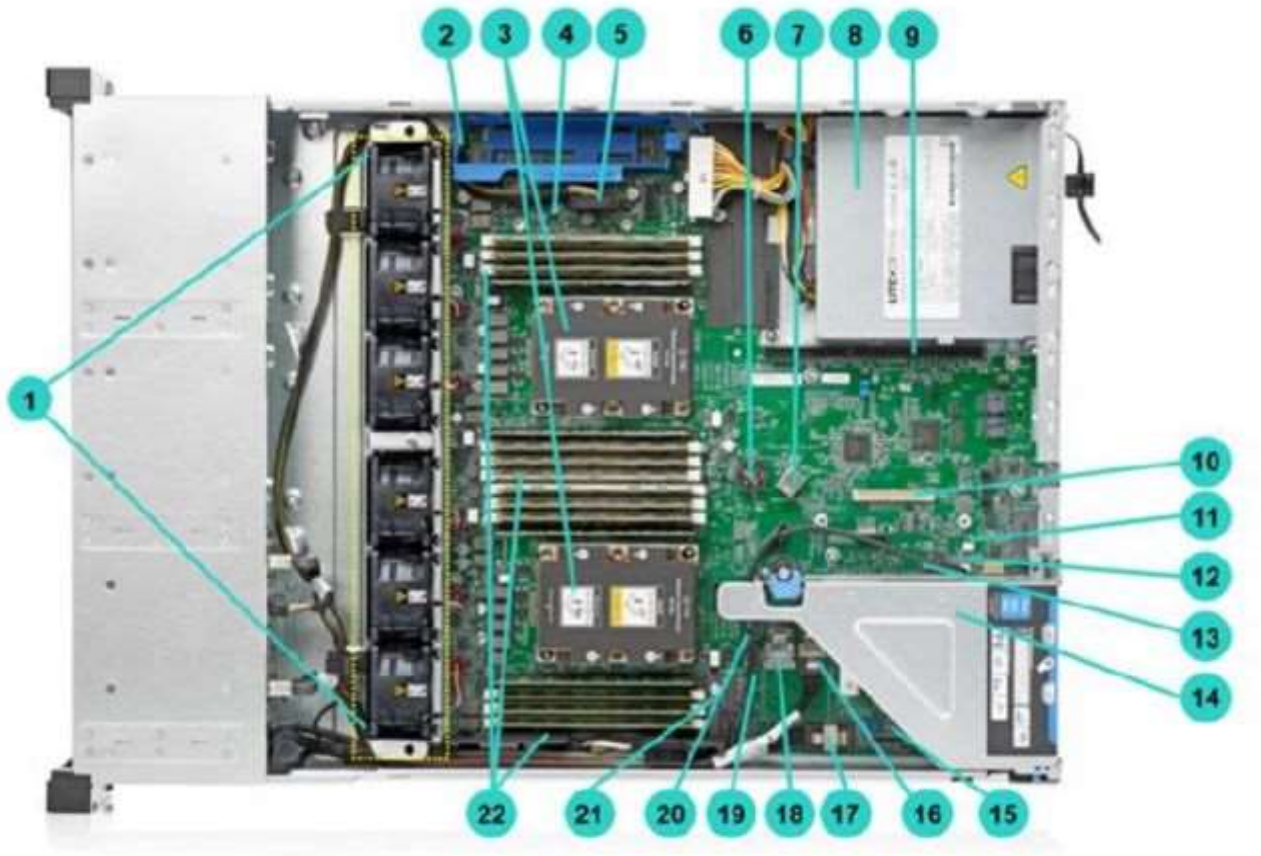
HPE ProLiant DL180 Gen10 Server

Adaptable for diverse workloads and environments, the secure 2P 2U HPE ProLiant DL180 Gen10 delivers world-class compelling performance with the right balance of expandability and scalability. Designed for supreme versatility and resiliency with the right balance of reliability, manageability and performance, while being backed by a comprehensive warranty make it ideal for multiple environments from Containers to Cloud to Big Data. Standardize on the industry's most trusted compute platform. SMBs and enterprises running application.

8SFF Chassis - Front View

1.	Quick removal access panel	7.	UID button
2.	8 SFF Drive Cage	8.	USB 3.0
3.	iLO Front Service Port	9.	Serial label pull tag
4.	Health LED	10	Box 3
5.	NIC status	11.	Box 2 (Optional 8 SFF, blank shown)
6.	Power On/Standby button and system power LED button	12	Box 1 (Optional 8 SFF or Optical Drive, blank shown)

Overview



8SFF Chassis - with optional 2nd CPU - Internal View

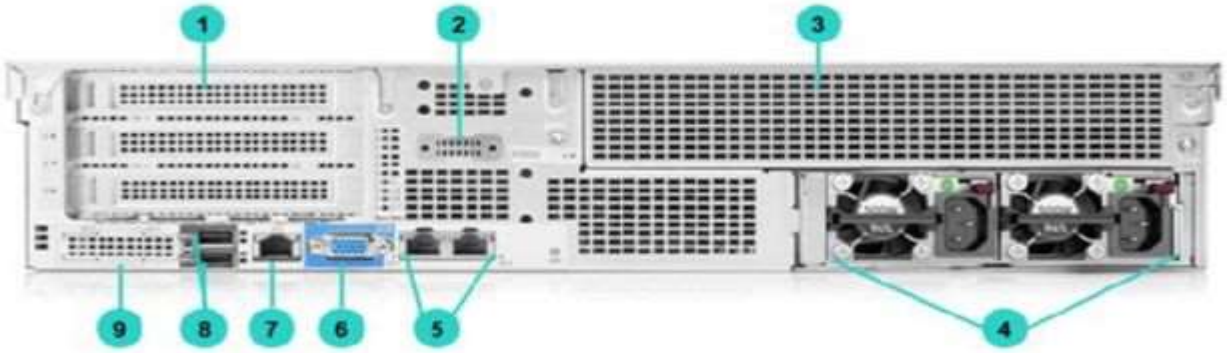
1. Standard single rotor hot swap fans
   1 CPU - 3 standard fans

   2 CPUs - 5 standard fans (1 redundant fan shown)*
2. Smart Storage Battery (No battery shown) *
3. Up to 2 processors (shown with standard heat sinks)
4. Chassis Intrusion Detection connector *
5. Hard Drive backplane power connector
6. System Battery
7. Internal USB 3.0 connector
8. Power supply (non-redundant power supply shown)
9. Secondary (CPU2) PCIe 3.0 riser
10. Flexible Smart Array Controller Connector
11. TPM 2.0*
12. MicroSD card slot
13. iLO Service Port Connector
14. Primary PCIe Riser: 8x8x8
15. Media Module Connector
16. Mini-SAS port 1
17. Mini-SAS port 2
18. Mini-SAS port 3
19. SATA port 4
20. SATA port 5
21. Front Power USB 3.0 connector
22. DDR4 DIMM slots

    (Fully populated 16 DIMMs shown)

Notes: *Optional

Overview



Rear View

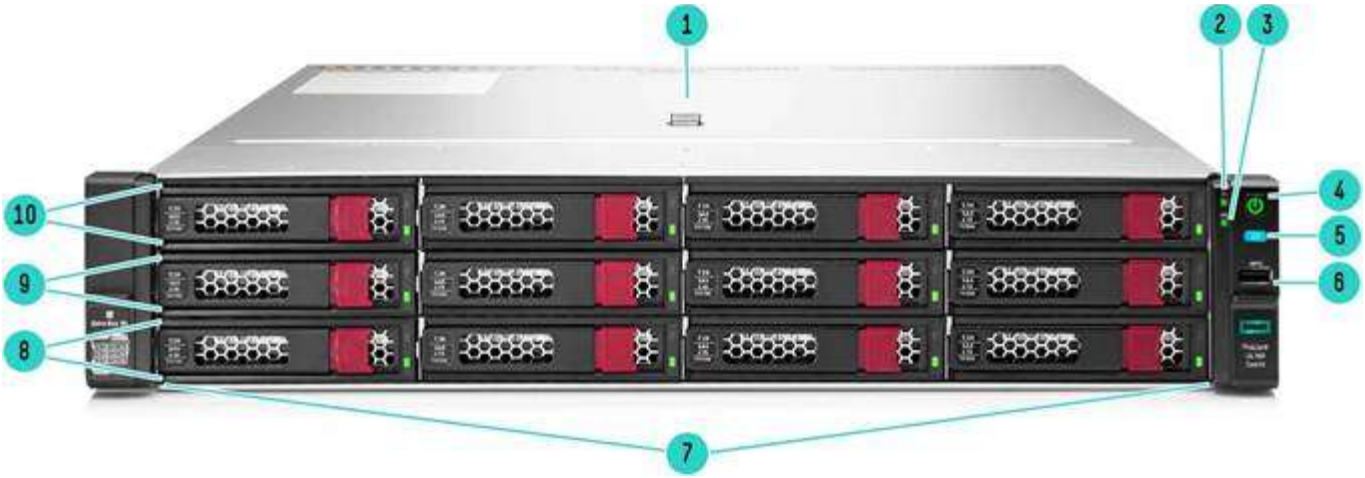
1. Primary Riser. PCI Slots (Slots 1-3 top to bottom)
2. Serial Port *
3. Secondary Riser. PCI Slots (Slots 4-6 top to bottom, requires second riser card and second processor).
4. Power Supply (Redundant Hot plug shown)
5. Embedded 2 x 1GbE Network Adapter
6. VGA Port
7. Dedicated iLO management port
8. USB connectors 3.0 (2)
9. Media Module*

Notes: *Optional

8LFF Chassis - Front View

1. Quick removal access panel
2. Optional: Optical drive (Blank Shown)
3. iLO Front Service Port
4. Health LED
5. NIC Status
6. Power On/Standby button and system power LED button
7. UID button
8. USB 3.0
9. LFF Drive cage
10. Box 3
11. Box 2
12. Box 1

Overview



12LFF Chassis - Front View

1.	Quick removal access panel	6.	USB 3.0
2.	Health LED	7.	LFF Drive cage
3.	NIC Status	8.	Box 3
4.	Power On/Standby button and system power LED button	9.	Box 2
5.	UID button	10	Box 1

What's New

- 800GB, 1.6/3.2/6.4TB Mixed Use SAS SFF PM6 SSDs
- 960GB, 1.92/3.84/7.68TB Read Intensive SAS SFF PM6 SSDs
- 400/800GB, 1.6TB Write Intensive SAS SFF PM6 SSDs
- Support for P816i-a storage controller including new cable/enablement kits
- Pre-configured server including P816i-a storage controller

Platform Information

Form Factor

- 2U rack

Chassis Types

- 8 SFF (upgradeable to 24SFF)
- 8 LFF
- 12 LFF

Notes: All models come with the S100i Smart Array Controller with embedded software RAID support for 14 drives. However this needs to be enabled using Enable SW RAID option (784308-B21) while configuring.

System Fans

- Standard - fan types (without rear drives)

Overview

Model	Non-Redundant	Redundant
1P Model	3 fans	4 fans
2P Model	5 fans	6 fans

Processors - Up to 2 of the following depending on model.

Notes:

- The 2nd digit of the processor model number "x1xx" and "x2xx" is used to denote the processor generation (i.e. 1=1st generation and 2=2nd generation)
- Field upgrades from 1st generation processors (x1xx) to 2nd generation processors (x2xx) not supported.
- "U" processors (i.e. 6209U) only supported in single socket configurations
- This table covers the public Intel offering only.
- For more information regarding Intel Xeon processors, please see the following **http://www.intel.com/xeon**.

2nd Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Platinum 8256 Processor	3.8 GHz	4	16.50 MB	105W	3 @ 10.4 GT/s	2933 MT/s	1TB
Platinum 8253 Processor	2.2 GHz	16	22.00 MB	125W	3 @ 10.4 GT/s	2933 MT/s	1TB

Notes:

- 6-Channel DDR4 @ 2933 MT/s with 1TB memory capacity per socket
- 2 and 4 socket capable, 2S - 2UPI, 2S - 3UPI, 4S - 3UPI @ 10.4 GT/s.
- Support for: Vector Neural Network Instructions (VNNI) for inference acceleration, Intel Turbo Boost Technology, Intel Hyper-Threading Technology Intel AVX-512 (2x 512-bit FMA), advanced RAS
- 48 lanes PCIe 3.0

2nd Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Gold 6252 Processor	2.1 GHz	24	35.75 MB	150W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6248 Processor	2.5 GHz	20	27.5 MB	150W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6244 Processor	3.6 GHz	8	24.75 MB	150W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6242 Processor	2.8 GHz	16	22 MB	150W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6240 Processor	2.6 GHz	18	24.75 MB	150W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6238 Processor	2.1 GHz	22	30.25 MB	140W	3 @ 10.4 GT/s	2933 MT/s	1TB

Standard Features

Gold 6234 Processor	3.3 GHz	8	24.75 MB	130W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6230R Processor	2.1 GHz	26	35.75 MB	150W	2 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6230 Processor	2.1 GHz	20	27.5 MB	125W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6226R Processor	2.9 GHz	16	22 MB	150W	2 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6226 Processor	2.7 GHz	12	19.25 MB	125W	3 @ 10.4 GT/s	2933 MT/s	1TB
Gold 6210U Processor	2.5 GHz	20	27.50 MB	150W	N/A	2933 MT/s	1TB
Gold 6209U Processor	2.1 GHz	20	27.50 MB	125W	N/A	2933 MT/s	1TB
Gold 6208U Processor	2.9 GHz	16	22 MB	150W	N/A	2933 MT/s	1TB
Gold 5222 Processor	3.8 GHz	4	16.5 MB	105W	2 @ 10.4 GT/s	2933 MT/s	1TB
Gold 5220R Processor	2.2 GHz	24	35.75 MB	150W	2 @ 10.4 GT/s	2933 MT/s	1TB
Gold 5220 Processor	2.2 GHz	18	24.75 MB	125W	2 @ 10.4 GT/s	2666 MT/s	1TB
Gold 5218R Processor	2.1 GHz	20	27.50 MB	125W	2 @ 10.4 GT/s	2666 MT/s	1TB
Gold 5218 Processor	2.3 GHz	16	22 MB	125W	2 @ 10.4 GT/s	2666 MT/s	1TB
Gold 5217 Processor	3.0 GHz	8	11 MB	115W	2 @ 10.4 GT/s	2666 MT/s	1TB
Gold 5215 Processor	2.5 GHz	10	13.75 MB	85W	2 @ 10.4 GT/s	2666 MT/s	1TB

Notes:

- 6-Channel DDR4 @ 2933 MT/s (Gold 6200 & 5222 skus only), 2666 MT/s on all Gold 5200 skus (except 5222 @ 2933 MT/s) with 1TB memory capacity per socket
- 2 and 4 socket capable, 2S - 2UPI, 2S - 3UPI, 4S-2UPI, 4S - 3UPI @ 10.4 GT/s.
- Support for: Vector Neural Network Instructions (VNNI) for inference acceleration, Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel AVX-512 (1x 512-bit FMA) (Gold 6200 and SKU 5222 - supports 2x 512 bit FMA), advanced RAS
- 48 lanes PCIe 3.0

Standard Features

1st Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Gold 6152 Processor	2.1 GHz	22	30.25 MB	140W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6148 Processor	2.4 GHz	20	27.50 MB	150W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6144 Processor	3.5 GHz	8	24.75 MB	150W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6142 Processor	2.6 GHz	16	22.00 MB	150W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6140 Processor	2.3 GHz	18	24.75 MB	140W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6138 Processor	2.0 GHz	20	27.50 MB	125W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6136 Processor	3.0 GHz	12	24.75 MB	150W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6134 Processor	3.2 GHz	8	24.75 MB	130W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6132 Processor	2.6 GHz	14	19.25 MB	140W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6130 Processor	2.1 GHz	16	22.00 MB	125W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6128 Processor	3.4 GHz	6	19.25 MB	115W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 6126 Processor	2.6 GHz	12	19.25 MB	125W	3 @ 10.4 GT/s	2666 MT/s	768GB
Gold 5122 Processor	3.6 GHz	4	16.50 MB	105W	2 @ 10.4 GT/s	2666 MT/s	768GB
Gold 5120 Processor	2.2 GHz	14	19.25 MB	105W	2 @ 10.4 GT/s	2400 MT/s	768GB
Gold 5118 Processor	2.3 GHz	12	16.50 MB	105W	2 @ 10.4 GT/s	2400 MT/s	768GB
Gold 5115 Processor	2.4 GHz	10	13.75 MB	85W	2 @ 10.4 GT/s	2400 MT/s	768GB

Notes:

- 6-Channel 1DPC DDR4 @ 2666 MT/s (Gold 6100 skus), 2400 MT/s on all Gold 5100 skus (SKU 5122 - supports 2666 MT/s), with 768GB memory capacity per socket
- 2 and 4 socket capable, 2S - 2UPI, 2S-3UPI, 4S - 3UPI @ 10.4 GT/s.
- Support for: Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel AVX-512 (1x 512-bit FMA) (Gold 6100 and SKU 5122 - supports 2x 512 bit FMA), advanced RAS
- 48 lanes PCIe 3.0

Standard Features

2nd Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Silver 4216 Processor	2.1 GHz	16	22 MB	100W	2 @ 9.6 GT/s	2400 MT/s	1TB
Silver 4215R Processor	3.2 GHz	8	11 MB	130W	2 @ 9.6 GT/s	2400 MT/s	1TB
Silver 4215 Processor	2.5 GHz	8	11 MB	85W	2 @ 9.6 GT/s	2400 MT/s	1TB
Silver 4214R Processor	2.4 GHz	12	16.5 MB	100W	2 @ 9.6 GT/s	2400 MT/s	1TB
Silver 4214 Processor	2.2 GHz	12	16.5 MB	85W	2 @ 9.6 GT/s	2400 MT/s	1TB
Silver 4210R Processor	2.4 GHz	10	13.75 MB	100W	2 @ 9.6 GT/s	2400 MT/s	1TB
Silver 4210 Processor	2.2 GHz	10	13.75 MB	85W	2 @ 9.6 GT/s	2400 MT/s	1TB
Silver 4208 Processor	2.1 GHz	8	11 MB	85W	2 @ 9.6 GT/s	2400 MT/s	1TB

Notes:

- 6-Channel DDR4 @ 2400 MT/s with 1TB memory capacity per socket
- 2 socket supports 2UPI @ 9.6 GT/s.
- Support for: Intel® Vector Neural Network Instructions (VNNI) for inference acceleration, Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel AVX-512 (1x 512-bit FMA), standard RAS
- 48 lanes PCIe 3.0

1st Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Silver 4116 Processor	2.1 GHz	12	16.50 MB	85W	2 @ 9.6 GT/s	2400 MT/s	768GB
Silver 4114 Processor	2.2 GHz	10	13.75 MB	85W	2 @ 9.6 GT/s	2400 MT/s	768GB
Silver 4112 Processor	2.6 GHz	4	8.25 MB	85W	2 @ 9.6 GT/s	2400 MT/s	768GB
Silver 4110 Processor	2.1 GHz	8	11.00 MB	85W	2 @ 9.6 GT/s	2400 MT/s	768GB
Silver 4108 Processor	1.8 GHz	8	11.00 MB	85W	2 @ 9.6 GT/s	2400 MT/s	768GB

Notes:

- 6-Channel DDR4 @ 2400 MT/s providing with 768GB memory capcity per socket
- 2 Socket supports 2UPI @ 9.6 GT/s
- Support for: Intel Turbo Boost Technology, Intel Hyper-Threading Technology, Intel AVX-512(1x 512-bit FMA), standard RAS

Standard Features

– 48 lanes PCIe 3.0

2nd Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Bronze 3206R	1.9 GHz	8	11 MB	85W	2 @ 9.6 GT/s	2133 MT/s	1 TB
Bronze 3204 Processor	1.9 GHz	6	8.25 MB	85W	2 @ 9.6 GT/s	2133 MT/s	1 TB

Notes:

– 6-Channel DDR4 @ 2133 MT/s with 1TB memory capacity per socket
– 2 Socket supports 2UPI @ 9.6 GT/s
– Support for: Intel® Vector Neural Network Instructions (VNNI) for inference acceleration., Intel AVX-512 (1x 512-bit FMA), standard RAS
– 48 lanes PCIe 3.0

1st Generation Intel® Xeon® Scalable Processor Family							
Intel Xeon Models	**CPU Frequency**	**Cores**	**L3 Cache**	**Power**	**UPI**	**DDR4**	**Memory per socket**
Bronze 3106 Processor	1.7 GHz	8	11.00 MB	85W	2 @ 9.6 GT/s	2133 MT/s	768GB
Bronze 3104 Processor	1.7 GHz	6	8.25 MB	85W	2 @ 9.6 GT/s	2133 MT/s	768GB

Notes:

– 6-Channel DDR4 @ 2133 MT/s with 768GB memory capacity per socket
– 2 Socket supports 2UPI @ 9.6 GT/s
– Support for: Intel AVX-512(1x 512-bit FMA), standard RAS
– 48 lanes PCIe 3.0

Chipset

Intel C622 Chipset

Notes: For more information regarding Intel® chipsets, please see the following URL:
http://www.intel.com/products/server/chipsets/

On System Management Chipset

HPE iLO 5 ASIC

Notes: Read and learn more in the **iLO QuickSpecs**.

Memory

Type	HPE DDR4 Smart Memory Registered (RDIMM), Load Reduced (LRDIMM)
DIMM Slots Available	16 8 DIMM slots per processor, 6 channels per processor, 2 channels @ 2 DIMMs per channel, 4 channels @ 1 DIMM per channel
Maximum capacity (LRDIMM)	1.0 TB 16 x 64 GB LRDIMM @ 2933 MT/s
Maximum capacity (RDIMM)	1.0 TB 16 x 64 GB RDIMM @ 2933 MT/s

Notes:

- Mixing of RDIMM and LRDIMM memory is not supported.
- For General Server Memory Population Rules and Guidelines for Gen10 see details here:
  http://www.hpe.com/docs/memory-population-rules

Memory Protection

Advanced ECC

Advanced ECC uses single device data correction to detect and correct single and all multibit error that occurs within a single DRAM chip.

Online Spare

Memory online spare mode detects a rank that is degrading and switches operation to the spare rank.

Notes: For more information see our **Memory RAS feature technical whitepaper**

Standard Features

Expansion Slots

CPU1 x8x8x8 riser					
Slots #	**Technology**	**Bus Width**	**Connector Width**	**Slot Form Factor**	**Notes**
1	PCIe 3.0	X8	X8	Full-height, full-length slot	Proc 1
2	PCIe 3.0	X8	X8	Full-height, half-length slot	Proc 1
3	PCIe 3.0	X8	X8	Full-height, half-length slot	Proc 1

Notes: Bus Width Indicates the number of physical electrical lanes running to the connector.

lexibleLOM					
Slots #	**Technology**	**Bus Width**	**Connector Width**	**Slot Form Factor**	**Notes**
1	PCIe 3.0	X8	X8	Full-height, full-length slot	Proc 1
2	PCIe 3.0	X8	X8	Full-height, half-length slot	Proc 1
3	PCIe 3.0	X8	X8	FlexibleLOM	Proc 1

Notes:

– Bus Width Indicates the number of physical electrical lanes running to the connector.

– This riser is necessary to install FlexibleLOM adapters

CPU1 x16x8 riser					
Slots #	**Technology**	**Bus Width**	**Connector Width**	**Slot Form Factor**	**Notes**
1	PCIe 3.0	X16	X16	Full-height, full-length slot	Proc 1
2	PCIe 3.0	X8	X8	Full-height, half-length slot	Proc 1

Notes: Bus Width Indicates the number of physical electrical lanes running to the connector.

CPU2 x8x8x8 riser					
Slots #	**Technology**	**Bus Width**	**Connector Width**	**Slot Form Factor**	**Notes**
1	PCIe 3.0	X8	X8	Full-height,full-length slot	Proc 2
2	PCIe 3.0	X8	X8	Full-height,half-length slot	Proc 2
3	PCIe 3.0	X8	X8	Low profile	Proc 2

Standard Features

Notes:

– Bus Width Indicates the number of physical electrical lanes running to the connector.

– When populating the second optional riser slot, the second processor must be installed.

CPU2 x16x8 riser					
Slots #	**Technology**	**Bus Width**	**Connector Width**	**Slot Form Factor**	**Notes**
1	PCIe 3.0	X16	X16	Full-height, full-length slot	Proc 2
2	PCIe 3.0	X8	X8	Low profile	Proc 2

Notes:

– Bus Width Indicates the number of physical electrical lanes running to the connector.

– When populating the second optional riser slot, the second processor must be installed.

– Includes GPU cable kit

Storage Controllers

The Gen10 controller naming framework has been updated to simplify identification as depicted below. For a more detailed breakout of the available Gen10 Smart Array controllers visit the **HPE Smart Array Gen10 Controllers Data Sheet**. One of the following depending on model

Software RAID

HPE Smart Array S100i SR Gen10 SW RAID

Notes:

– HPE Smart Array S100i SR Gen10 SW RAID will operate in UEFI mode only. For legacy support an additional controller will be needed.
– HPE Smart Array S100i SR Gen10 SW RAID is off by default and must be enabled.
– HPE Smart Array S100i SR Gen10 SW RAID only supports Windows and does not support Linux. For Linux users, HPE offers a solution that uses in-distro open-source software to create a two-disk RAID 1 boot volume. For more information visit: https://downloads.linux.hpe.com/SDR/project/lsrrb/

Essential RAID Controller

- HPE Smart Array E208i-a SR Gen10 Controller
- HPE Smart Array E208i-p SR Gen10 Controller
- HPE Smart Array E208e-p SR Gen10 Controller

Performance RAID Controller

- HPE Smart Array P816i-a SR Gen10 Controller
- HPE Smart Array P408i-a SR Gen10 LH Controller
- HPE Smart Array P408i-p SR Gen10 Controller

Standard Features

- HPE Smart Array P408e-p SR Gen10 Controller

Notes:

– Performance RAID Controllers require the HPE Smart Storage Battery (P01366-B21) which is sold separately.

– For additional details, please see **HPE Smart Array Gen10 Controllers Data Sheet**

Internal Storage Devices

- **Optical Drive**

Optional: DVD-ROM or DVD-RW

- **Hard Drives**

None ship standard

Maximum Internal Storage

Drive	Capacity	Configuration
Hot Plug SFF SAS HDD	62.4 TB	24 + 2 X 2.4 TB (with dual SFF rear drive option)
Hot Plug LFF SAS HDD	144 TB	12 X 12 TB
Hot Plug SFF SATA HDD	52 TB	24 + 2 X 2 TB (with dual SFF rear drive option)
Hot Plug LFF SATA HDD	144 TB	12 X 12 TB
Hot Plug SFF SAS SSD	200 TB	24 + 2 X 7.68 TB (with dual SFF rear drive option)
Hot Plug LFF SAS SSD	19.2 TB	12 X 1.6 TB
Hot Plug SFF SATA SSD	200 TB	24 + 2 X 7.68 TB (with dual SFF rear drive option)
Hot Plug LFF SATA SSD	92 TB	12 X 7.68 TB

Interfaces

Video	1 rear - VGA Port (standard)
Network Ports	2 x 1 GbE ports embedded on board with optional Media Module, FlexibleLOM or stand up card
Management Network Port	1 Gb Dedicated
Front iLO Service Port	1 standard
Micro SD Slot	1 Micro SD **Notes:** The Micro SD slot is not a hot-pluggable device. Customers should not attempt to plug an SD card into the SD slot while the server is powered.
USB 3.0	Up to 4 total: 1 front, 2 rear, 1 internal (secure),

Operating Systems and Virtualization Software Support for HPE Servers

HPE servers are designed for seamless integration with partner Operating Systems and Virtualization Software. By collaborating closely with our partners, we ensure that their products are optimized, certified, and fully supported within your HPE server environment.

Access the certified and supported servers for each of the OS and Virtualization software: **HPE Servers Support & Certification Matrices**

Industry Standard Compliance

- ACPI 6.1 Compliant
- PCIe 3.0 Compliant
- WOL Support
- Microsoft® Logo certifications
- PXE Support
- USB 3.0 Compliant (internal)
- SMBIOS 3.1
- UEFI 2.6
- Redfish API
- IPMI 2.0
- Secure Digital 2.0
- Advanced Encryption Standard (AES)
- Triple Data Encrytion Standard (3DES)
- SNMP v3
- TLS 1.2
- DMTF Systems Management Architecture for Server Hardware Command Line Protocol (SMASH CLP)
- Active Directory v1.0
- ASHRAE A3/A4

  Notes: For additional technical thermal details regarding ambient temperatures, humidity and features support please visit: **https://support.hpe.com/hpesc/public/docDisplay?docId=a00026969en_us&page=index.html**

- UEFI (Unified Extensible Firmware Interface Forum)

  Notes: UEFI is the default for the HPE ProLiant DL160 Gen10. Legacy mode can be selected in the field.

European Union (EU) eco-design regulations for server and storage products, known as Lot 9, go into effect on March 1st, 2020. Among other requirements, for servers this directive establishes power thresholds for idle state, as well as efficiency and performance in active state which vary among configurations. HPE ProLiant Gen10 servers are compliant with Lot9 requirements.

Beginning on January 1st, 2024, units sold into the European Union (EU), European Economic Area (EEA), the United Kingdom, or Switzerland must include more efficient AC power supplies: 94% for multi-output and 96% for single-output. HPE Flexible Slot power supplies are single-output, and part numbers 865438-B21, P03178-B21, and P44712-B21 are 96% efficient, thus meeting requirements.

HPE is on target to fulfil compliant systems ahead of time and will begin enforcing these requirements in advance to satisfy requests with the current power supplies by the set deadline. For more information regarding HPE Lot 9

conformance, please visit:

- **https://www.hpe.com/us/en/about/environment/msds-specs-more.html**

Power Supply

- HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit
  Notes: Available in 94% efficiency.
- HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit
  Notes:
  – Available in 94% and 96% efficiency.
  – Also available in -48VDC power input.

HPE Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, tool-less installation into HPE ProLiant Gen10 Performance Servers. Flex Slot power supplies are certified for high-efficiency operation and offer multiple power output options, allowing users to "right-size" a power supply for specific server configurations. This flexibility helps to reduce power waste, lower overall energy costs, and avoid "trapped" power capacity in the data center.

All pre-configured servers ship with a standard 6-foot IEC C-13/C-14 jumper cord (A0K02A). This jumper cord is also included with each standard AC power supply option kit. If a different power cord is required, please check the **ProLiant Power Cables** web page.

For information on power specifications and technical content visit **HPE Server power supplies**.

Graphics

Integrated Video Standard

- Video modes up to 1920 x 1200@60Hz (32 bpp)
- 16MB Video Memory

HPE iLO 5 on system management memory

- 32 MB Flash
- 4 Gbit DDR 3 with ECC protection

HPE Server UEFI/Legacy ROM

Unified Extensible Firmware Interface (UEFI) is an industry standard that provides better manageability and more secured configuration than the legacy ROM while interacting with your server at boot time. HPE ProLiant Gen10 servers have a UEFI Class 2 implementation and support both UEFI Mode (default) and Legacy BIOS Mode.

Notes: The UEFI System Utilities tool is analogous to the HPE ROM-Based Setup Utility (RBSU) of legacy BIOS. For more information, please visit **http://www.hpe.com/servers/uefi**.

- UEFI enables numerous new capabilities specific to HPE ProLiant servers such as:
- Secure Boot and Secure Start enable for enhanced security

Standard Features

- Operating system specific functionality
- Support for > 2.2 TB (using GPT) boot drives
- USB 3.0 Stack
- Embedded UEFI Shell
- Mass Configuration Deployment Tool using iLO RESTful API that is Redfish API Conformant
- PXE boot support for IPv6 networks
- Workload Profiles for simple performance optimization
- UEFI Boot Mode only:
- NVMe Boot Support
- iSCSI Software Initiator Support.
- HTTP/HTTPs Boot support as a PXE alternative.
- Boot support for option cards that only support a UEFI option ROM

Notes: For UEFI Boot Mode, boot environment and OS image installations should be configured properly to support UEFI.

Security

- UEFI Secure Boot and Secure Start support
- Immutable Silicon Root of Trust
- FIPS 140-2 validation
- Common Criteria certification
- Configurable for PCI DSS compliance
- Advanced Encryption Standard (AES) and Triple Data Encryption Standard (3DES) on browser
- Support for Commercial National Security Algorithms (CNSA)
- iLO Security Modes
- Granular control over iLO interfaces
- Tamper-free updates - components digitally signed and verified
- Secure Recovery - recover critical firmware to known good state on detection of compromised firmware
- Ability to rollback firmware
- Secure erase of NAND/User data
- TPM (Trusted Platform Module) 2.0 option
- Bezel Locking Kit
- Chassis Intrusion detection option

Embedded Management

UEFI

Configure and boot your servers securely with industry standard Unified Extensible Firmware Interface (UEFI). Learn more at **http://www.hpe.com/servers/uefi**.

Intelligent Provisioning

Hassle free server and OS provisioning for 1 or more servers with Intelligent Provisioning.
Learn more at **http://www.hpe.com/servers/intelligentprovisioning**.

Standard Features

iLO RESTful API

iLO RESTful API is Redfish API conformance and offers simplified server management automation such as configuration and maintenance tasks based on modern industry standards. Learn more at **http://www.hpe.com/info/restfulapi**.

Server Utilities

iLO Amplifier Pack

Designed for large enterprise and service provider environments with hundreds of HPE servers, the iLO Amplifier Pack is a free, downloadable open virtual application (OVA) that delivers the power to discover, inventory and update Gen8, Gen9 and Gen10 HPE servers at unmatched speed and scale. Use with an iLO Advanced License to unlock full capabilities.

Learn more at **http://www.hpe.com/servers/iLOamplifierpack**.

HPE iLO Mobile Application

Enables the ability to access, deploy, and manage your server anytime from anywhere from select smartphones and mobile devices. For additional information please visit: **http://www.hpe.com/info/ilo/mobileapp**.

RESTful Interface Tool

RESTful Interface tool (iLOREST) is a single scripting tool to provision using iLO RESTful API to discover and deploy servers at scale. Learn more at **http://www.hpe.com/info/resttool**.

Scripting Tools

Provision one to many servers using your own scripts to discover and deploy with Scripting Tool (STK) for Windows and Linux or Scripting Tools for Windows PowerShell. Learn more at or **http://www.hpe.com/servers/powershell**.

HPE OneView Standard

HPE OneView Standard can be used for inventory, health monitoring, alerting, and reporting without additional fees. It can monitor multiple HPE server generations. The user interface is similar to the HPE OneView Advanced version, but the software-defined functionality is not available. Learn more at **http://www.hpe.com/info/oneview**

HPE Systems Insight Manager (HPE SIM)

Ideal for environments already using HPE SIM, it allows you to monitor the health of your HPE ProLiant Servers and HPE Integrity Servers. Also provides you with basic support for non-HPE servers. HPE SIM also integrates with Smart Update Manager to provide quick and seamless firmware updates. Learn more at **http://www.hpe.com/info/hpesim**.

Active Health System Viewer

Use the Active Health System Viewer, a web-based portal, to easily read AHS logs and speed problem resolution with HPE self-repair recommendations, to learn more visit: **http://www.hpe.com/servers/ahsv**.

Standard Features

Service Pack for ProLiant (SPP)

The Service Pack for ProLiant (SPP) is a comprehensive collection of server firmware, drivers, and system software tested as a single solution stack, which is delivered as a single ISO image. Learn more at **http://www.hpe.com/servers/spp**

Warranty

This product is covered by a global limited warranty and supported by HPE Services and a worldwide network of Hewlett Packard Enterprise Authorized Channel Partners resellers. Hardware diagnostic support and repair is available for three years from date of purchase. Support for software and initial setup is available for 90 days from date of purchase. Enhancements to warranty services are available through HPE Services operational services or customized service agreements. Hard drives have either a one year or three year warranty; refer to the specific hard drive QuickSpecs for details.

Notes: Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response. Warranty repairs may be accomplished through the use of Customer Self Repair (CSR) parts. These parts fall into two categories: 1) Mandatory CSR parts are designed for easy replacement. A travel and labor charge will result when customers decline to replace a Mandatory CSR part; 2) Optional CSR parts are also designed for easy replacement but may involve added complexity. Customers may choose to have Hewlett Packard Enterprise replace Optional CSR parts at no charge. Additional information regarding worldwide limited warranty and technical support is available at:

https://www.hpe.com/support/ProLiantServers-Warranties

Server Management

HPE iLO Advanced

HPE iLO Advanced licenses offer smart remote functionality without compromise, for all HPE ProLiant servers. The license includes the full integrated remote console, virtual keyboard, video, and mouse (KVM), multi-user collaboration, console record and replay, and GUI-based and scripted virtual media and virtual folders. You can also activate the enhanced security and power management functionality. Learn more about HPE iLO Advanced at **http://www.hpe.com/servers/iloadvanced.**.

HPE GreenLake for Compute Ops Management

HPE is intelligently transforming compute management with an intuitive cloud operating experience through HPE GreenLake cloud platform to streamline and secure operations from edge-to-cloud. Automated key lifecycle tasks, for onboarding, updating, managing, and monitoring HPE servers, brings agility and greater efficiencies to wherever compute devices reside via a unified single browser-based interface. Manage single locations or multiple, distributed sites. Keep tens to thousands of servers secure with batch policy controls and automated updates.

Compute Ops Management is cloud-native software that is continually updated with new services, features, patches, and fixes. The management application resides in the HPE GreenLake cloud platform (access via **https://console.greenlake.hpe.com)** and leverages the HPE GreenLake architecture, security, and unified operations.
For a complete list of software as-a-service subscription SKUs and more information, visit the HPE GreenLake for Compute Ops Management QuickSpecs: **https://www.hpe.com/psnow/doc/a50004263enw**
For information on supported HPE servers, the complete list can be found here:

https://www.hpe.com/info/com-supported-servers

HPE OneView Advanced

HPE OneView brings a new level of automation to infrastructure management by taking a template driven approach to provisioning, updating, and integrating compute, storage, and networking infrastructure. It provides full-featured licenses which can be purchased for managing Gen8, Gen9 and Gen10 servers. To learn more visit **http://www.hpe.com/info/oneview**

HPE InfoSight for Servers

HPE InfoSight for Servers combines the cloud-based machine learning of InfoSight with the health and performance monitoring of Active Health System (AHS) and iLO to optimize performance and predict and prevent problems. The end result is an intelligent environment that modernizes IT operations and enhances the support experience by predicting and preventing the infrastructure issues that lead to application disruptions, wasted IT staff time and missed business opportunities.

Learn more at **https://www.hpe.com/servers/infosight**

Optional Features

HPE Insight Cluster Management Utility (CMU)

HPE Insight Cluster Management Utility is a HyperScale management framework that includes software for the centralized provisioning, management and monitoring of nodes and infrastructure. Learn more at **http://www.hpe.com/info/cmu**.

Rack and Power Infrastructure

The story may end with servers, but it starts with the foundation that makes compute go - and business grow. We've reinvented our entire portfolio of rack and power products to make IT infrastructure more secure, more practical, and more efficient. In other words, we've created a stronger, smarter, and simpler infrastructure to help you get the most out of your IT equipment. As an industry leader, Hewlett Packard Enterprise is uniquely positioned to address the key concerns of power, cooling, cable management and system access.

HPE G2 Advanced and Enterprise Racks are perfect for the server room or today's modern data center with enhanced airflow and thermal management, flexible cable management, and a 10 year Warranty to support higher density computing.

HPE G2 PDUs offer reliable power in flexible form factors that operate at temperatures up to 60°, include color-coded outlets and load segments and a low-profile design for optimal access to the rack and support for dense rack environments.

HPE Uninterruptible Power Systems are cost-effective power protection for any type workload. Some UPSs include options for remote management and extended runtime modules so you're critical dense data center is covered in power outages.

HPE KVM Solutions include a console and switches designed to work with your server and IT equipment reliably. We've got a cost-effective KVM switch for your first rack and multiple connection IP switches with remote management and security capabilities to keep your data center rack up and running.

Learn more about HPE Racks, KVM, PDUs and UPSs at **HPE Rack and Power Infrastructure**.

One Config Simple (SCE)

SCE is a guided self-service tool to help sales and non-technical people provide customers with initial configurations in 3 to 5 minutes. You may then send the configuration on for configuration help, or use in your existing ordering processes. If you require "custom" rack configuration or configuration for products not available in SCE, please contact Hewlett Packard Enterprise Customer Business Center or an Authorized Partner for assistance. **https://h22174.www2.hpe.com/SimplifiedConfig/Welcome#**

Service and Support

HPE Services

No matter where you are in your digital transformation journey, you can count on HPE Services to deliver the expertise you need when, where and how you need it. From planning to deployment, ongoing operations and beyond, our experts can help you realize your digital ambitions.
https://www.hpe.com/services

Consulting Services

No matter where you are in your journey to hybrid cloud, experts can help you map out your next steps. From determining what workloads should live where, to handling governance and compliance, to managing costs, our experts can help you optimize your operations.
https://www.hpe.com/services/consulting

HPE Managed Services

HPE runs your IT operations, providing services that monitor, operate, and optimize your infrastructure and applications, delivered consistently and globally to give you unified control and let you focus on innovation.
HPE Managed Services | HPE

Operational services

Optimize your entire IT environment and drive innovation. Manage day-to-day IT operational tasks while freeing up valuable time and resources. Meet service-level targets and business objectives with features designed to drive better business outcomes.
https://www.hpe.com/services/operational

HPE Complete Care Service

HPE Complete Care Service is a modular, edge-to-cloud IT environment service designed to help optimize your entire IT environment and achieve agreed upon IT outcomes and business goals through a personalized experience. All delivered by an assigned team of HPE Services experts. HPE Complete Care Service provides:

- A complete coverage approach -- edge to cloud
- An assigned HPE team
- Modular and fully personalized engagement
- Enhanced Incident Management experience with priority access
- Digitally enabled and AI driven customer experience

https://www.hpe.com/services/completecare

HPE Tech Care Service

HPE Tech Care Service is the operational support service experience for HPE products. The service goes beyond traditional support by providing access to product specific experts, an AI driven digital experience, and general technical guidance to not only reduce risk but constantly search for ways to do things better. HPE Tech Care Service delivers a customer-centric, AI driven, and digitally enabled customer experience to move your business forward. HPE Tech Care Service is available in three response levels. Basic, which provides 9x5 business hour availability and a 2-hour response time. Essential which provides a 15-minute response time 24x7 for most enterprise level customers, and Critical which includes a 6-hour repair commitment where available and outage management response for severity 1 incidents.
https://www.hpe.com/services/techcare

HPE Lifecycle Services

HPE Lifecycle Services provide a variety of options to help maintain your HPE systems and solutions at all stages of the product lifecycle. A few popular examples include:

- Lifecycle Install and Startup Services: Various levels for physical installation and power on, remote access setup, installation and startup, and enhanced installation services with the operating system.
- HPE Firmware Update Analysis Service: Recommendations for firmware revision levels for selected HPE products, taking into account the relevant revision dependencies within your IT environment.
- HPE Firmware Update Implementation Service: Implementation of firmware updates for selected HPE server, storage, and solution products, taking into account the relevant revision dependencies within your IT environment.
- Implementation assistance services: Highly trained technical service specialists to assist you with a variety of activities, ranging from design, implementation, and platform deployment to consolidation, migration, project management, and onsite technical forums.
- HPE Service Credits: Access to prepaid services for flexibility to choose from a variety of specialized service activities, including assessments, performance maintenance reviews, firmware management, professional services, and operational best practices.

Notes: To review the list of Lifecycle Services available for your product go to:
https://www.hpe.com/services/lifecycle
For a list of the most frequently purchased services using service credits, see the **HPE Service Credits Menu**

Other Related Services from HPE Services:

HPE Education Services

Training and certification designed for IT and business professionals across all industries. Broad catalogue of course offerings to expand skills and proficiencies in topics ranging from cloud and cybersecurity to AI and DevOps. Create learning paths to expand proficiency in a specific subject. Schedule training in a way that works best for your business with flexible continuous learning options.
https://www.hpe.com/services/training

Defective Media Retention

An option available with HPE Complete Care Service and HPE Tech Care Service and applies only to Disk or eligible SSD/Flash Drives replaced by HPE due to malfunction.
Consult your HPE Sales Representative or Authorized Channel Partner of choice for any additional questions and services options.

Parts and Materials

HPE will provide HPE-supported replacement parts and materials necessary to maintain the covered hardware product in operating condition, including parts and materials for available and recommended engineering improvements.
Parts and components that have reached their maximum supported lifetime and/or the maximum usage limitations as set forth in the manufacturer's operating manual, product quick-specs, or the technical product data sheet will not be provided, repaired, or replaced as part of these services.

How to Purchase Services

Services are sold by Hewlett Packard Enterprise and Hewlett Packard Enterprise Authorized Service Partners:

- Services for customers purchasing from HPE or an enterprise reseller are quoted using HPE order configuration tools.
- Customers purchasing from a commercial reseller can find services at **https://ssc.hpe.com/portal/site/ssc/**

Service and Support

AI Powered and Digitally Enabled Support Experience
Achieve faster time to resolution with access to product-specific resources and expertise through a digital and data driven customer experience
Sign into the HPE Support Center experience, featuring streamlined self-serve case creation and management capabilities with inline knowledge recommendations. You will also find personalized task alerts and powerful troubleshooting support through an intelligent virtual agent with seamless transition when needed to a live support agent.
https://support.hpe.com/hpesc/public/home/signin

Consume IT On Your Terms

HPE GreenLake edge-to-cloud platform brings the cloud experience directly to your apps and data wherever they are-the edge, colocations, or your data center. It delivers cloud services for on-premises IT infrastructure specifically tailored to your most demanding workloads. With a pay-per-use, scalable, point-and-click self-service experience that is managed for you, HPE GreenLake edge-to-cloud platform accelerates digital transformation in a distributed, edge-to-cloud world.

- Get faster time to market
- Save on TCO, align costs to business
- Scale quickly, meet unpredictable demand
- Simplify IT operations across your data centers and clouds

To learn more about HPE Services, please contact your Hewlett Packard Enterprise sales representative or Hewlett Packard Enterprise Authorized Channel Partner. Contact information for a representative in your area can be found at "Contact HPE" **https://www.hpe.com/us/en/contact-hpe.html**
For more information
http://www.hpe.com/services

Pre-Configured Models

- Pre- Configured models ship with the configurations below. Options can be selected from the Core or Additional options section of this QuickSpecs.
- Hewlett Packard Enterprise does not allow factory integration of options into pre-configured models. Any additional options purchased will be shipped separately.
- If you desire a custom configuration please see "Configuration Information - Factory Integrated Models" section of this QuickSpecs.

European Union (EU) eco-design regulations for server and storage products, known as Lot 9, go into effect on March 1st, 2020. Among other requirements, for servers this directive establishes power thresholds for idle state, as well as efficiency and performance in active state which vary among configurations. HPE ProLiant Gen10 servers are compliant with Lot9 requirements. For more information regarding HPE Lot 9 conformance, please visit:

https://www.hpe.com/us/en/about/environment/msds-specs-more.html

Powered by 2nd Generation Intel Xeon Processors			
SKU Number- WW	P35519-B21	P35520-B21	P37151-B21
SKU Number-Japan	P35519-291	P35520-291	P37151-291
Model Name	HPE ProLiant DL180 Gen10 4210R 2.4GHz 10-core 1P 16GB-R S100i 8SFF 500W PS Server	HPE ProLiant DL180 Gen10 5218 2.3GHz 16-core 1P 16GB-R S100i 8SFF 500W PS Server	HPE ProLiant DL180 Gen10 4208 2.1GHz 8-core 1P 16GB-R P816i-a 12LFF 500W PS Server
Chassis	8SFF	8SFF	12LFF
Processor	4210R (2.4GHz/10-core/100W)	5218 (2.3GHz/16-core/125W)	4208 (2.1GHz/8-core/85W)
Number of Processors	One processor with Standard heatsink	One processor with Standard heatsink	One processor with Standard heatsink
Memory	HPE 16GB 1Rx4 PC4-2933Y-R Smart Kit	HPE 16GB 1Rx4 PC4-2933Y-R Smart Kit	HPE 16GB 1Rx4 PC4-2933Y-R Smart Kit
Network Controller	Embedded 2-Port 1GbE	Embedded 2-Port 1GbE	Embedded 2-Port 1GbE
Storage Controller	Embedded 14Port S100i **Notes:** SATA only	Embedded 14Port S100i **Notes:** SATA only	P816i-a and Smart Storage Battery
Cables	1x Box3 MB/-p cable (879752-B21) to connect 8 drive bays in box3 to S100i (can also be used to connect to -p controller).	1x Box3 MB/-p cable (879752-B21) to connect 8 drive bays in box3 to S100i (can also be used to connect to -p controller).	HPE DL180 Gen10 LFF P816i-a Cable Kit (P36415-B21)
Hard Drive	None included	None included	None included
Optical Drive	None included	None included	None included
PCIe Slots	3 PCIe: 1x8 FHFL, 1x8 FHHL, 1x8 FHHL		
Power Supply	1x 500W Hot Plug; RPS ready	1x 500W Hot Plug; RPS ready	1x 500W Hot Plug; RPS ready
Fans	3 Fans	3 Fans	3 Fans
Management	HPE iLO5, Infosight		
Rail Kit	SFF Easy Install	SFF Easy Install	LFF Easy Install

Pre-Configured Models

Form Factor	2U Rack
Warranty	3-year parts, 3-year labor, 3-year onsite support with next business day response

Country Code Key

- B21 = Worldwide except Japan & PRC
- 291 = Japan

Factory Integrated Models

This section lists some of the steps required to configure a Factory Integrated Model. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an HPE approved configurator. Contact your local sales representative for information on configurable product offerings and requirements.

- Factory Integrated Models must start with a CTO Server.
- FIO indicates that this option is only available as a factory installable option.
- All Factory Integrated Models will be populated with sufficient hard drive blanks based on the number of initial hard drives ordered with the server.
- Some options may not be integrated at the factory. Contact your local sales representative for additional information.

European Union (EU) eco-design regulations for server and storage products, known as Lot 9, go into effect on March 1st, 2020. Among other requirements, for servers this directive establishes power thresholds for idle state, as well as efficiency and performance in active state which vary among configurations. HPE ProLiant Gen10 servers are compliant with Lot9 requirements. For more information regarding HPE Lot 9 conformance, please visit:

https://www.hpe.com/us/en/about/environment/msds-specs-more.html

Step 1: Base Configuration (choose one of the following configurable models)

CTO Server	HPE DL180 Gen10 8SFF CTO Server	HPE DL180 Gen10 8LFF CTO Server	HPE DL180 Gen10 12LFF CTO Server
SKU Number	879517-B21	879515-B21	879516-B21
Processor	Not included as standard		
DIMM Slots	16-DIMM Slots		
Storage Controller	Embedded SW RAID with 14 SATA ports, choice of HPE modular Smart Array and PCIe plug-in controller		
PCIe	None standard. Primary riser must be added.		
Drive Cage - included	8SFF	8LFF	12LFF
Network Controller	Embedded 2x1GbE with optional, Media Module, HPE FlexibleLOM on riser and optional Standup card		
Fans	1 CPU- 3 Standard Fans 2 CPU- 5 Standard Fans		
Management	HPE iLO with Intelligent Provisioning (standard), iLO Advanced and OneView (optional)		
USB	Front: 1 USB 3.0 + iLO service port Rear: 2 USB 3.0 Internal: 1 USB 3.0		
Included Drive Cage	8 SFF	8LFF	12 LFF
Additional drive cages	8-16 SFF SAS/SATA 16-24 SFF SAS/SATA	8-12 LFF SAS/SATA	-
ODD - 2SFF Rear	Optional	Optional	2SFF rear- Optional

Step 2: Choose Required Options (only one of the following unless otherwise noted)

Please select one -L21 processor required below.

For second processor, please select the same processor model with -B21 from Core Options - HPE Processors section.

For example: first processor, select P12007-L21 then for second processor, select P12007-B21.

Notes:

- Mixing of 2 different processor models is not supported.
- For first processor, -L21 will include 3 fans, For second processor, -B21 will add 2 additional fans
- When 2nd Generation Intel Xeon Scalable Processor is slected, then only DDR4-2933 Memory Kit can be selected; When 1st Generation Intel Xeon Scalable Processor is selected, then only DDR4-2666 Memory Kit can be selected

Step 2a: Choose Processors

Processor Option Kits (Required Processor)

Step 2b: Choose Memory Options

Please select one or more memory from below.

For new Gen10 memory population rule whitepaper and optimal memory performance guidelines, please go to:

https://www.hpe.com/docs/memory-population-rules

For Gen10 memory speed table, please go to: **https://www.hpe.com/docs/memory-speed-table**

For memory Reliability, Accessibility, Serviceability (RAS) features whitepaper like Gen10 Fast Fault Tolerance and legacy mirrored memory feature etc. please go to: **http://www.hpe.com/docs/memory-ras-feature**

Notes:

- Maximum memory capacity and speed per processor is dependent on processor model selection or limitation.
- DDR4-2933 Memory Kits are only supported with 2nd Generation Intel Xeon Scalable Series Processors and DDR4-2666 Memory Kits are only supported with 1st Generation Intel Xeon Scalable Series Processors.

Registered DIMMs (RDIMMs) for 2nd Generation Intel Xeon Scalable Series	
HPE 64GB (1x64GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00930-B21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00924-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00922-B21
HPE 16GB (1x16GB) Single Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00920-B21
HPE 8GB (1x8GB) Single Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00918-B21
Registered DIMMs (RDIMMs) for 1st Generation Intel Xeon Scalable Series	
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815100-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-B21

Step 2c: Choose Power Supplies

Configuration Information

Please select one or two power supplies from below.

Notes:

- Mixing of 2 different power supplies is NOT supported.
- HPE DL160/180 Gen10 Redundant Power Supply Enablement Kit (866442-B21) required with selection of power supply.

HPE Flex Slot Power Supplies

HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865408-B21
HPE 800W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit	865438-B21
HPE 800W Flex Slot Hot Plug Universal Low Halogen High Voltage AC/DC Power Supply Kit	865428-B21
HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865414-B21
HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit	865434-B21
HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	830272-B21

Notes: This enablement kit is required with the selection of a Flex Slot power supply

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Step 3: Choose Additional Factory Integratable Options

One of the following from each list may be selected if desired at time of factory integration

HPE Legacy FIO Mode Setting	758959-B22
HPE FIO Enable Smart Array SW RAID	784308-B21
HPE Gen10 TPM 1.2 FIO Setting	872108-B21

Cable Kits (factory integrated only)

Step 4: Choose additional options for Factory Integration from Core and Additional Options sections below:

Some options may not be integrated at the factory. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of a Hewlett Packard Enterprise approved configurator. Contact your local sales representative for additional information.

HPE OneView for ProLiant DL Server including 3yr 24x7 Support FIO Bundle Physical 1-server LTU	E5Y43A
HPE OneView w/o iLO including 3yr 24x7 Support 1-server FIO LTU	P8B31A

Cable/Enablement Kits

HPE DL360 Gen9 Rear Serial Port and Enablement Kit	764646-B21

Notes: Contains cables to connect 8-12 front LFF SAS/SATA drives to the P816i-a storage controller. Required with selection of P816i-a controller and LFF chassis.

Optical Drive Options

HPE 9.5mm SATA DVD-ROM Optical Drive	726536-B21

Notes: The ODD Enablement kit (866951-B21) is required for this option on a SFF model.

HPE 9.5mm SATA DVD-RW Optical Drive	726537-B21

Notes: The ODD Enablement kit (866951-B21) is required for this option on a SFF model.

HPE Mobile USB DVD-RW Optical Drive	701498-B21

Notes: This option is only supported on USB 3.0 ports.

Security

HPE Gen10 Chassis Intrusion Detection Kit	867824-B21
HPE Bezel Lock Kit	875519-B21
HPE Gen10 2U Bezel Kit	867809-B21
HPE Trusted Platform Module 2.0 Gen10 Option	864279-B21

HPE Processors

Please select one -L21 processor required above.

For second processor, please select the same processor model with -B21 from Core Options - HPE Processors section below.

For example: first processor, select P11161-L21 then for second processor, select P11161-B21.

Notes:

- Field upgrades from 1st generation processors (x1xx) to 2nd generation processors (x2xx) not supported.
- Mixing of 2 different processor models is not supported.
- For first processor, -L21 will include 3 fans, For second processor, -B21 will add 2 additional fans
- When 2nd Generation Intel Xeon Scalable Processor is slected, then only DDR4-2933 Memory Kit

Core Options

can be selected; When 1st Generation Intel Xeon Scalable Processor is selected, then only DDR4-2666 Memory Kit can be selected.

Intel Xeon-Silver 4214R (2.4GHz/12-core/100W) Processor Kit for HPE ProLiant DL180 Gen10	P21199-B21
Intel Xeon-Silver 4210R (2.4GHz/10-core/100W) Processor Kit for HPE ProLiant DL180 Gen10	P21198-B21
Intel Xeon-Silver 4208 (2.1GHz/8-core/85W) Processor Kit for HPE ProLiant DL180 Gen10	P11147-B21

HPE Memory

For new Gen10 memory population rule whitepaper and optimal memory performance guidelines, please go to:

https://www.hpe.com/docs/memory-population-rules

For Gen10 memory speed table, please go to: **https://www.hpe.com/docs/memory-speed-table**

For memory Reliability, Accessibility, Serviceability (RAS) features whitepaper like Gen10 Fast Fault Tolerance and legacy mirrored memory feature etc. please go to: **http://www.hpe.com/docs/memory-ras-feature**

Notes:

- Maximum memory capacity and speed per processor is dependent on processor model selection or limitation.
- DDR4-2933 Memory Kits are only supported with 2nd Generation Intel Xeon Scalable Series Processors and DDR4-2666 Memory Kits are only supported with 1st Generation Intel Xeon Scalable Series Processors.

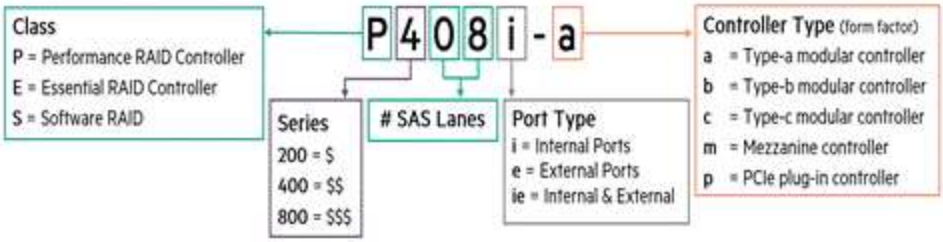
HPE DDR4 Memory

Registered DIMMs (RDIMMs) for 2nd Generation Intel Xeon Scalable Series	
HPE 64GB (1x64GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00930-B21
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00924-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00922-B21
HPE 16GB (1x16GB) Single Rank x4 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00920-B21
HPE 8GB (1x8GB) Single Rank x8 DDR4-2933 CAS-21-21-21 Registered Smart Memory Kit	P00918-B21
Registered DIMMs (RDIMMs) for 1st Generation Intel Xeon Scalable Series	
HPE 32GB (1x32GB) Dual Rank x4 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	815100-B21
HPE 16GB (1x16GB) Dual Rank x8 DDR4-2666 CAS-19-19-19 Registered Smart Memory Kit	835955-B21

HPE Smart Array Controllers

The Gen10 controller naming framework has been updated to simplify identification as depicted below. For a more detailed breakout of the available Gen10 Smart Array controllers visit the **HPE Smart Array Gen10 Controllers Data Sheet**.

Core Options



Essential RAID Controllers

Notes: E208i-p and E208e-p PCIe plug-in controllers use a PCIe slot.

HPE Smart Array E208i-p SR Gen10 (8 Internal Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804394-B21
HPE Smart Array E208e-p SR Gen10 (8 External Lanes/No Cache) 12G SAS PCIe Plug-in Controller	804398-B21
HPE Smart Array E208i-a SR Gen10 (8 Internal Lanes/No Cache) 12G SAS Modular Controller	804326-B21

Notes: SFF Box3 to Smart Array E208i-a/P408i-a Cable Kit' (882011-B21) is required for the installation of the controllers E208i-a or P408i-a

Performance RAID Controller

HPE Smart Array P816i-a SR Gen10 (16 Internal Lanes/4GB Cache/SmartCache) 12G SAS Modular Controller	804338-B21

Notes: Requires either LFF for SFF P816i-a cable kit (P36415-B21, P37221-B21)

HPE Smart Array P408i-a SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS Modular Controller	804331-B21
HPE Smart Array P408e-p SR Gen10 (8 External Lanes/4GB Cache) 12G SAS PCIe Plug-in Controller	804405-B21
HPE Smart Array P408i-p SR Gen10 (8 Internal Lanes/2GB Cache) 12G SAS PCIe Plug-in Controller	830824-B21

Notes: 'SFF Box3 to Smart Array E208i-a/P408i-a Cable Kit' (882011-B21) is required for the installation of the controllers E208i-a or P408i-a

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HPE Cable Options

HPE Smart Storage Hybrid Capacitor with 145mm Cable Kit	P02377-B21

Notes: Supports up to 3 P-class Smart Array controllers

HPE 96W Smart Storage Lithium-ion Battery with 145mm Cable Kit	P01366-B21

Notes: Supports up to 6 P-class Smart Array controllers

Optional Software

HPE Smart Array SR Secure Encryption (Data at Rest Encryption/per Server Entitlement) E-LTU	Q2F26AAE

Notes: Smart Cache is offered on HPE Smart Array performance RAID controllers

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HPE Drives

Mission Critical (Enterprise) - 12G SAS - SFF Drives

HPE 2.4TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty 512e Multi Vendor HDD	881457-B21
HPE 1.8TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty 512e Multi Vendor HDD	872481-B21
HPE 1.2TB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	872479-B21
HPE 600GB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	872477-B21
HPE 300GB SAS 12G Mission Critical 10K SFF SC 3-year Warranty Multi Vendor HDD	872475-B21

Core Options

HPE 900GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	870759-B21
HPE 600GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	870757-B21
HPE 300GB SAS 12G Mission Critical 15K SFF SC 3-year Warranty Multi Vendor HDD	870753-B21
Business Critical (Midline) - 12G SAS - LFF Drives	
HPE 12TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	881781-B21
HPE 8TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	834031-B21
HPE 6TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	861746-B21
HPE 4TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	833928-B21
HPE 2TB SAS 12G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	833926-B21
Business Critical (Midline) - 6G SATA- SFF Drives	
HPE 2TB SATA 6G Business Critical 7.2K SFF SC 1-year Warranty 512e HDD	765455-B21
Business Critical (Midline) - 6G SATA - LFF Drives	
HPE 12TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Helium 512e Multi Vendor HDD	881787-B21
HPE 8TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	834028-B21
HPE 6TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty 512e Multi Vendor HDD	861742-B21
HPE 4TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861683-B21
HPE 2TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861681-B21
HPE 1TB SATA 6G Business Critical 7.2K LFF LP 1-year Warranty Multi Vendor HDD	861686-B21

SSD Selection

For SSD selection guidance, please visit **https://ssd.hpe.com/**

Read Intensive - 12G SAS - SFF - Solid State Drives	
HPE 7.68TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	P49039-B21
HPE 7.68TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	P37003-B21
HPE 3.84TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	P49034-B21
HPE 3.84TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	P37001-B21
HPE 1.92TB SAS 12G Read Intensive SFF SC Multi Vendor SSD	P49030-B21
HPE 1.92TB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	P36999-B21
HPE 960GB SAS 12G Read Intensive SFF SC Multi Vendor SSD	P49028-B21
HPE 960GB SAS 12G Read Intensive SFF SC Value SAS Multi Vendor SSD	P36997-B21
Mixed Use - 12G SAS - SFF - Solid State Drives	
HPE 6.4TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	P49056-B21
HPE 3.84TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	P37017-B21
HPE 3.2TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	P49052-B21
HPE 1.92TB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	P37011-B21
HPE 1.6TB SAS 12G Mixed Use SFF SC Multi Vendor SSD	P49048-B21
HPE 960GB SAS 12G Mixed Use SFF SC Value SAS Multi Vendor SSD	P37005-B21
HPE 800GB SAS 12G Mixed Use SFF SC Multi Vendor SSD	P49046-B21
Mixed Use - 12G SAS - LFF - Solid State Drives	
HPE 960GB SAS 12G Mixed Use LFF LPC Value SAS Multi Vendor SSD	P37009-B21
Read Intensive - SATA - SFF - Solid State Drives	
HPE 3.84TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18428-B21
HPE 1.92TB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18426-B21
HPE 960GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18424-B21
HPE 480GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18422-B21

Core Options

HPE 240GB SATA 6G Read Intensive SFF SC Multi Vendor SSD	P18420-B21
Mixed Use - SATA - SFF - Solid State Drives	
HPE 3.84TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18438-B21
HPE 1.92TB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18436-B21
HPE 960GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18434-B21
HPE 480GB SATA 6G Mixed Use SFF SC Multi Vendor SSD	P18432-B21
Read Intensive - SATA - LFF - Solid State Drives	
HPE 960GB SATA 6G Read Intensive LFF LPC Multi Vendor SSD	P47808-B21
Internal Dual M.2 Kit	
HPE Universal SATA 6G AIC HHHL M.2 SSD Enablement Kit	878783-B21
Notes: The Universal SATA M.2 Kit above will require a PCIe slot and support up to two of the same M.2 cards below.	
Read Intensive - M.2 - Solid State Drives (2280 type)	
HPE 480GB SATA 6G Read Intensive M.2 Multi Vendor SSD	P47818-B21
Hard Drive Blank Kits	
HPE Small Form Factor Hard Drive Blank Kit	666987-B21
HPE Gen9 LFF HDD Spade Blank Kit	807878-B21

HPE Networking

25 Gigabit Ethernet adapters	
HPE Ethernet 10/25Gb 2-port SFP28 MCX4121A-ACUT Adapter	817753-B21
10 Gigabit Ethernet adapters	
HPE Ethernet 10Gb 2-port BASE-T BCM57416 Adapter	813661-B21
HPE Ethernet 10Gb 2-port SFP+ X710-DA2 Adapter	727055-B21
HPE Ethernet 10Gb 2-port BASE-T X550-AT2 Adapter	817738-B21
1 Gigabit Ethernet adapters	
HPE Ethernet 1Gb 4-port BASE-T BCM5719 Adapter	647594-B21
HPE Ethernet 1Gb 4-port BASE-T I350-T4V2 Adapter	811546-B21
Notes: Max 1 per system. Can only be installed in Slot 1	
HPE Ethernet 1Gb 2-port BASE-T BCM5720 Adapter	615732-B21
FlexibleLOM adapters	
HPE Ethernet 10/25Gb 2-port FLR-SFP28 MCX4121A-ACFT Adapter	817749-B21
HPE Ethernet 10/25Gb 2-port FLR-SFP28 MCX4121A-ACFT Adapter	817749-B21
HPE Ethernet 10Gb 2-port FLR-T BCM57416 Adapter	817721-B21
HPE Ethernet 1Gb 4-port FLR-T BCM5719 Adapter	629135-B22
HPE Ethernet 1Gb 4-port FLR-T I350-T4V2 Adapter	665240-B21

Notes:

- The DL180 Gen10 ships with 2x 1 Gb Embedded Network controller.
- Only one FlexibleLOM can be added to the server. These options are upgradeable and can be changed from the original configuration after the server is shipped.
- FlexibleLOM Enablement Kit (866941-B21) is required to install these adapters
- Direct Attach Cable (DAC) for copper environments or fiber transceivers and cables for fiber-optic environments must be purchased separately. Please see the related NIC QuickSpecs for

Core Options

Technical Specifications and additional information:
https://www.hpe.com/us/en/product-catalog/servers/adapters/pip.models.hpe-storefabric-converged-network-adapters.4118472.html

HPE Power Supplies

HPE Flexible Slot (Flex Slot) Power Supplies share a common electrical and physical design that allows for hot plug, tool-less installation into HPE ProLiant Gen10 Performance Servers. Flex Slot power supplies are certified for high-efficiency operation and offer multiple power output options, allowing users to "right-size" a power supply for specific server configurations. This flexibility helps to reduce power waste, lower overall energy costs, and avoid "trapped" power capacity in the data center.

All pre-configured servers ship with a standard 6-foot IEC C-13/C-14 jumper cord (A0K02A). This jumper cord is also included with each standard AC power supply option kit. If a different power cord is required, please check the **ProLiant Power Cables** web page.

HPE Flex Slot Power Supplies

HPE 500W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865408-B21
HPE 800W Flex Slot Titanium Hot Plug Low Halogen Power Supply Kit	865438-B21
HPE 800W Flex Slot Hot Plug Universal Low Halogen High Voltage AC/DC Power Supply Kit	865428-B21
HPE 800W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	865414-B21
HPE 800W Flex Slot -48VDC Hot Plug Low Halogen Power Supply Kit	865434-B21
HPE 1600W Flex Slot Platinum Hot Plug Low Halogen Power Supply Kit	830272-B21

Some options may not be integrated at the factory. To ensure only valid configurations are ordered, Hewlett Packard Enterprise recommends the use of an HPE approved configurator. Contact your local sales representative for additional information.

Embedded Management

HPE iLO Advanced

HPE iLO Advanced Electronic License with 1yr Support on iLO Licensed Features	E6U59ABE
HPE iLO Advanced 1-server License with 1yr Support on iLO Licensed Features	512485-B21
HPE iLO Advanced Flexible Quantity License with 1yr Support on iLO Licensed Features	512486-B21
HPE iLO Advanced AKA Tracking License with 1yr Support on iLO Licensed Features	512487-B21
HPE iLO Advanced Electronic License with 3yr Support on iLO Licensed Features	E6U64ABE
HPE iLO Advanced 1-server License with 3yr Support on iLO Licensed Features	BD505A
HPE iLO Advanced Flexible Quantity License with 3yr Support on iLO Licensed Features	BD506A
HPE iLO Advanced AKA Tracking License with 3yr Support on iLO Licensed Features	BD507A

Software as a Service Management

HPE GreenLake for Compute Ops Management

HPE GreenLake for Compute Ops Management Enhanced 3-year Upfront ProLiant SaaS	R7A11AAE

Additional Options

HPE GreenLake for Compute Ops Management Enhanced 1-year Upfront ProLiant SaaS	R7A10AAE
HPE GreenLake for Compute Ops Management Enhanced 5-year Upfront ProLiant SaaS	R7A12AAE

Notes: For customers purchasing HPE GreenLake for Compute Ops Management, without a hardware purchase or a BTO purchase, use this base SKU within ASQ order:

HPE GreenLake for Compute Ops Management Base SaaS	R6Z73AAE

HPE iLO Common Password Setting

HPE iLO Common Password FIO Setting	P08040-B21

Notes:

- Replaces iLO default randomized password by an HPE defined common password. HPE highly recommends changing this password immediately after the initial onboarding process.
- Customers who want to choose their own custom iLO default password should use the HPE Factory Express Integration Services

HPE Converged Infrastructure Management Software

HPE OneView including 3yr 24x7 Support Physical 1-server LTU	E5Y34A
HPE OneView including 3yr 24x7 Support Flexible Quantity E-LTU	E5Y35AAE
HPE OneView including 3yr 24x7 Support Flexible Quantity E-LTU	

HPE OneView Advanced (without HPE iLO Advanced)

Additional Options

HPE OneView w/o iLO including 3yr 24x7 Support 1-server LTU	P8B24A
HPE OneView w/o iLO including 3yr 24x7 Support Track 1-server LTU	P8B25A
HPE OneView w/o iLO including 3yr 24x7 Support Flexible Quantity E-LTU	P8B26AAE

Notes:

- Licenses ship without media. The HPE OneView Media Kit can be ordered separately, or can be downloaded at: **https://www.hpe.com/us/en/integrated-systems/software.html**
- Electronic and Flexible-Quantity licenses can be used to purchase multiple licenses with a single activation key.
- Licenses ship without media. The HPE OneView Media Kit can be ordered separately, or can be downloaded at: **https://www.hpe.com/us/en/integrated-systems/software.html**

HPE Storage Options

Emulex Fibre Channel HBAs

HPE SN1200E 16Gb Single Port Fibre Channel Host Bus Adapter	Q0L13A
HPE SN1200E 16Gb Dual Port Fibre Channel Host Bus Adapter	Q0L14A
HPE SN1600E 32Gb Single Port Fibre Channel Host Bus Adapter	Q0L11A
HPE SN1600E 32Gb Dual Port Fibre Channel Host Bus Adapter	Q0L12A

QLogic Fibre Channel HBAs

HPE SN1100Q 16Gb Single Port Fibre Channel Host Bus Adapter	P9D93A
HPE SN1100Q 16Gb Dual Port Fibre Channel Host Bus Adapter	P9D94A

HPE Rack Options

Rail Kits

Notes: HPE rail kits are designed to work with HPE racks in compliance with industry standard EIA-310-E. In the event a customer elects to purchase a third-party rack for use with an HPE rail kit, any such use is at customer's own risk. HPE makes no express or implied warranties with respect to such third-party racks and specifically disclaims any implied warranties of merchantability and fitness for a particular purpose. Furthermore, HPE has no obligation and assumes no liability for the materials, design, specifications, installation, safety, and compatibility of any such third-party racks with any rail kits, including HPE rail kits.

HPE 2U Small Form Factor Easy Install Rail Kit	733660-B21

Notes: This (733660-B21) Rail kit can alos be used for LFF chassis.

HPE 2U Cable Management Arm for Easy Install Rail Kit	733664-B21

HPE Racks

- Please see the HPE Advanced Series Racks QuickSpecs for information on additional racks options and rack specifications. **HPE G2 Advanced Series Racks**
- Please see the HPE Enterprise Series Racks QuickSpecs for information on additional racks options and rack specifications. **HPE G2 Enterprise Series Racks**

Additional Options

HPE Power Distribution Units (PDUs)

- Please see the **HPE Basic Power Distribution Units (PDU) QuickSpecs** for information on these products and their specifications.
- Please see the **HPE Metered Power Distribution Units (PDU) QuickSpecs** for information on these products and their specifications.
- Please see the **HPE Intelligent Power Distribution Unit (PDU) QuickSpecs** for information on these products and their specifications.
- Please see the **HPE Metered and Switched Power Distribution Units (PDU) QuickSpecs** for information on these products and their specifications.

HPE Uninterruptible Power Systems (UPS)

- To learn more, please visit the **HPE Uninterruptible Power Systems (UPS) web page**.
- Please see the **HPE DirectFlow Three Phase Uninterruptible Power System QuickSpecs** for information on these products and their specifications.
- Please see the **HPE Line Interactive Single Phase UPS QuickSpecs** for information on these products and their specifications.

HPE Rack Options

- Please see the **HPE IT Access and Control** for information on these products and their specifications.

HPE USB and SD Options

HPE Enterprise Mainstream Flash Media Kits for Memory Cards

HPE 32GB microSD Flash Memory Card	700139-B21
HPE 32GB microSD RAID 1 USB Boot Drive	P21868-B21

Notes: In vSphere 7.0, VMware made changes that impact the use of an SD Card/USB media as a standalone boot device and will be removing support for them after version 7.x.

SD Card/USB media can still be used as a standalone boot option through all 7.x releases via published Customer Advisory Usage of SD Card/USB Devices As Standalone Boot Devices Has Changed Due to System Storage Changes For VMware ESXi 7.0 (Or Later).

For any major release beyond VMware ESXi 7.x, VMware will require M.2 or another local persistent device as the standalone boot option.

HPE Support Services

Tech Care

HPE 5 Year Tech Care Essential DL180 Gen10 Service	HV6V3E
HPE 5 Year Tech Care Essential wDMR DL180 Gen10 Service	HV6V6E

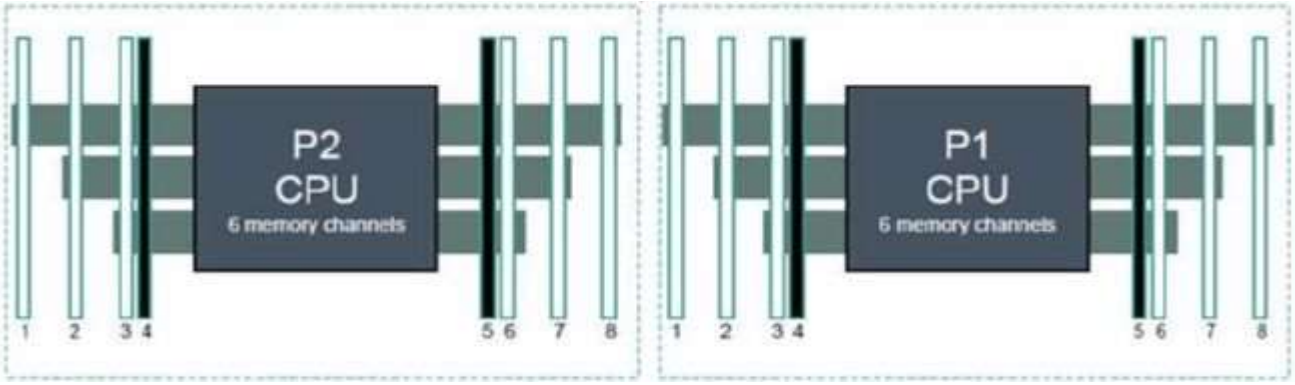
Additional Options

HPE 3 Year Tech Care Essential DL180 Gen10 Service	HV6V1E
HPE 3 Year Tech Care Essential wDMR DL180 Gen10 Service	HV6V4E

Notes: For a full listing of support services available for this server, please visit http://www.hpe.com/services.

Memory

Memory Population guidelines



HPE DL160/DL180 Gen 10 Servers Front Server

(2+1+1 slots per channel)

1 DIMM			**3**					
2 DIMM s		**2**	**3**					
3 DIMM s	**1**	**2**	**3**					
4 DIMM s		**2**	**3**			**6**	**7**	
5 DIMM s*	**1**	**2**	**3**			**6**	**7**	
6 DIMM s	**1**	**2**	**3**			**6**	**7**	**8**
7 DIMM s*	**1**	**2**	**3**	**4**		**6**	**7**	**8**
8 DIMM s*	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**

HPE ProLiant Gen10 8 slot per CPU DIMM population order

Notes:*Unbalanced, not recommended

General Memory Population Rules and Guidelines:

- Install DIMMs only if the corresponding processor is installed.
- If only one processor is installed in a two-processor system, only half of the DIMM slots are available.
- To maximize performance, it is recommended to balance the total memory capacity between all installed processors.
- When two processors are installed, balance the DIMMs across the two processors.
- White DIMM slots denote the first slot to be populated in a channel.
- Mixing of DIMM types (UDIMM, RDIMM, and LRDIMM) is not supported.
- The maximum memory speed is a function of the memory type, memory configuration, and processor model.
- The maximum memory capacity is a function of the number of DIMM slots on the platform, the largest DIMM capacity qualified on the platform, the number and model of installed processors qualified on the platform.
- For details on the HPE Server Memory Options Population Rules, visit:
  http://www.hpe.com/docs/memory-population-rules

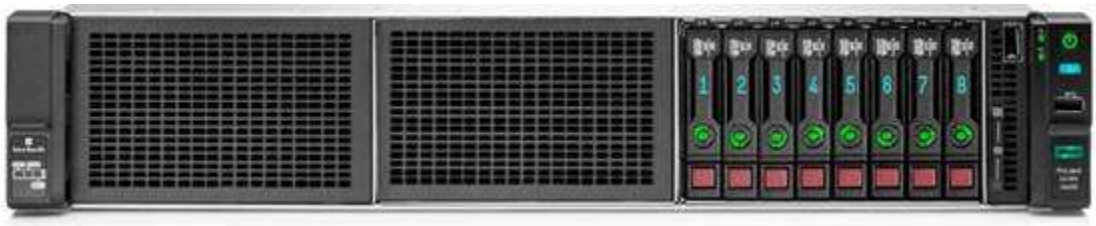
- To realize the performance memory capabilities listed in this document, HPE DDR4 Smart Memory is required. For additional information, please see the **HPE DDR4 Smart Memory QuickSpecs.**

Memory

Notes: The maximum memory speed is a function of the memory type, memory configuration, and processor model

For details on the HPE Server Memory speed, visit: **https://www.hpe.com/docs/memory-speed-table**

Storage



8 SFF Drives

8LFF Drives

12LFF Drives

System Unit

Dimensions (Height X Width X Depth)

- 8.75 x 44.54 x 63.47 cm

3.44 x 17.54 x 24.99 in (Dimensions for 12LFF)
Weight (approximate)

- **Minimum**

8 SFF/LFF chassis with 1x SFF/LFF HDD and 7 HDD blanks, 2x Drive Bay blanks, 1x processor including standard heatsink, 1x power supply (plus blank), 1x Smart Array, 1x Riser installed, cables for the above)

– 13.0 kg--26.0 kg
28.0lb--58.0 lb

Input Requirements(per power supply)

Rated Line Voltage

- 100 to 120 VAC
- 200 to 240 VAC

BTU Rating

- **Maximum**

For 500W Power Supply: 1979 BTU/hr (at 100 VAC), 1911 BTU/hr (at 200 VAC), 1965 BTU/hr (at 240 VAC) for China Only

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Power Supply Output(per power supply)

- **Rated Steady-State Power**

For 500W Power Supply: 500W (at 100 VAC), 500W (at 240 VAC), 500W (at 240 VAC) input for China only

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System Inlet Temperature

- **Standard Operating Temperature**

10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 20°C/hr (36°F/hr). The upper limit and rate of change may be limited by the type and number of options installed.

Technical Specifications

System performance during standard operating support may be reduced if operating with a fan fault or above 30°C (86°F).

- **Extended Ambient Operating Temperature**

For approved hardware configurations, the supported system inlet range is extended to be: 5° to 10°C (41° to 50°F) and 35° to 40°C (95° to 104°F) at sea level with an altitude derating of 1.0°C per every 175 m (1.8°F per every 574 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: **https://support.hpe.com/hpesc/public/docDisplay?docId=a00026969en_us&page=index.html**

For approved hardware configurations, the supported system inlet range is extended to be: 40° to 45°C (104° to 113°F) at sea level with an altitude derating of 1.0°C per every 125 m (1.8°F per every 410 ft) above 900 m (2953 ft) to a maximum of 3050 m (10,000 ft). The approved hardware configurations for this system are listed at the URL: **https://support.hpe.com/hpesc/public/docDisplay?docId=a00026969en_us&page=index.html**

System performance may be reduced if operating in the extended ambient operating range or with a fan fault.

- **Non-operating**

-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).

Relative Humidity

- **Operating**

8% to 90% - Relative humidity (Rh), 28°C maximum wet bulb temperature, non-condensing.

- **Non-operating** (Non-condensing)

5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing..

Altitude

- **Operating**

3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

- **Non-operating**

9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).

Acoustic Noise

Listed are the declared A-Weighted sound power levels (L_{WAd}) and declared average bystander position A-

Technical Specifications

Weighted sound pressure levels (L_{pAm}) when the product is operating in a 23°C ambient environment. Noise emissions were measured in accordance with ISO 7779 (ECMA 74) and declared in accordance with ISO 9296 (ECMA 109). The listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels. Please have your HPE representative provide information from the HPE EMESC website for further technical details regarding the configurations listed below.

Configuration SKU	Entry(LFF)/ (SFF)	Base(LFF)/ SFF)	Performance(LFF)/ (SFF)
Idle			
L_{WAd}	4.2 B	4.3 B	4.7 B
L_{pAm}	26.6 dBA	27.0 dBA	28.5 dBA
Operating			
L_{WAd}	5.2 B	5.4 B	5.7 B
L_{pAm}	35.4 dBA	37.2 dBA	39.7 dBA

Notes:

- Acoustics levels presented here are generated by the test configuration only. Acoustics levels will vary depending on system configuration. Values are subject to change without notification and are for reference only.
- Product conformance to cited product specifications is based on sample (type) testing, evaluation, or assessment. This product or family of products is eligible to bear the appropriate compliance logos and statements.
- The Listed sound levels apply to standard shipping configurations. Additional options may result in increased sound levels.

Emissions Classification (EMC) - Regulatory Information

To view the regulatory information for your product, view the Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products, available at the Hewlett Packard Enterprise Support Center:

http://www.hpe.com/support/Safety-Compliance-EnterpriseProducts

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HPE Smart Array

- For information on the HPE Smart Array E208i-p SR Gen10 Controller please refer to their **QuickSpecs**.
- For information on the HPE Smart Array E208e-p SR Gen10 Controller please refer to their **QuickSpecs**.

Environment-friendly Products and Approach - End-of-life Management and Recycling

Hewlett Packard Enterprise offers **end-of-life product return, trade-in, and recycling programs**, in many geographic areas, for our products. Products returned to Hewlett Packard Enterprise will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard Enterprise web site. These instructions may be used by recyclers and other WEEE treatment facilities as well as Hewlett Packard Enterprise OEM customers who integrate and re-sell Hewlett Packard Enterprise equipment.

European Union Erp Lot 9 Regulation

Beginning on January 1st, 2024, units sold into the European Union (EU), European Economic Area (EEA), the United Kingdom, or Switzerland must include more efficient AC power supplies: 94% for multi-output and 96% for single-output. HPE Flexible Slot power supplies are single-output, and part numbers 865438-B21, P03178-B21, and P44712-B21 are 96% efficient, thus meeting requirements.

HPE is on target to fulfil compliant systems ahead of time and will begin enforcing these requirements in advance to satisfy requests with the current power supplies by the set deadline.

Summary of Changes

Date	Version History	Action	Description of Change
16-Sep-2024	Version 34	Changed	Standard Features (Operating Systems and Virtualization Software Support for HPE Servers) and Core Options sections were updated.
18-Mar-2024	Version 33	Changed	Standard Features and Additional Options sections were updated.
05-Feb-2024	Version 32	Changed	Core Options section was updated
20-Nov-2023	Version 31	Changed	HPE Services Rebranding
05-Sep-2023	Version 30	Changed	Core Options sections was updated. Obsolete SKUs were removed.
21-Aug-2023	Version 29	Changed	Technical Specification section was updated.
01-May-2023	Version 28	Changed	Optional Features and Additional Options sections were updated.
05-Dec-2022	Version 27	Changed	Core Options and Additional Options sections were updated. Obsolete SKUs were removed.
07-Nov-2022	Version 26	Changed	Optional Features, Core Options and Additional Options sections were updated. Obsolete SKUs were removed.
01-Aug-2022	Version 25	Changed	Configuration Information section was updated. Obsolete SKU was removed.
05-Jul-2022	Version 24	Changed	Core Options sections was updated. Obsolete SKUs were removed.
06-Dec-2021	Version 23	Changed	Core Options and Additional Options sections were updated. Obsolete SKUs were removed.
01-Nov-2021	Version 22	Changed	Core Options sections was updated. Obsolete SKUs were removed.
02-Aug-2021	Version 21	Changed	Core Options sections was updated. Obsolete SKUs were removed.
06-Apr-2021	Version 20	Changed	Service and Support and Additional Options sections were updated. Obsolete SKUs were removed.
01-Feb-2021	Version 19	Changed	Overview and Core Options sections were updated. Obsolete SKUs were removed.
07-Dec-2020	Version 18	Changed	Overview, Standard Features, Configuration Information, Core Options and Additional Options sections were updated. Obsolete SKUs were removed.
05-Oct-2020	Version 17	Changed	Pre- Configured Models, Configuration Information, Core Options and Additional Options sections were updated. Obsolete SKUs were removed.

Summary of Changes

08-Sep-2020	Version 16	Changed	Overview, Standard Features, Pre- Configured Models, Configuration Information, Core Options and Additional Options sections were updated. Obsolete SKUs were removed.
01-Jun-2020	Version 15	Changed	Overview, Configuration Information, Core Options and Additional Options sections were updated.
06-Apr-2020	Version 14	Changed	Core Options section was updated.
16-Mar-2020	Version 13	Changed	Service and Support, Pre- Configured Models, Core Options and Additional Options sections were updated.
03-Feb-2020	Version 12	Changed	Overview, Standard Features,Configuration Information, Pre-Configured Models, Core Options, Additional Options and Memory sections were updated.
02-Dec-2019	Version 11	Changed	Configuration Information, Core Options, and Additional Options were updated.
18-Nov-2019	Version 10	Changed	Overview, Standard Features, Configuration Information, Core Options, and Additional Options were updated.
04-Nov-2019	Version 9	Changed	Standard Features and Additional Options section were updated.

Date	Version History	Action	Description of Change
07-Oct-2019	Version 8	Changed	Overview, Standard Features, Pre-configured Models, Core Options, Additional Options, Memory and Technical Specifications sections were updated. Obsolete SKUs were removed.
12-Aug-2019	Version 7	Changed	Overview, Standard Features and Additional Options sections were updated.
30-Jul-2019	Version 6	Changed	Additional Options section was updated.
01-Jul-2019	Version 5	Changed	Overview, Standard Features, Service and Support, Configuration Information and Additional Options sections were updated.
03-Jun-2019	Version 4	Changed	Overview, Standard Features, Service and Support, Configuration Information, Additional Options, Memory, Storage and Technical Specifications sections were updated.
02-Apr-2019	Version 3	Changed	Standard Features and Additional Options sections were updated.
04-Mar-2019	Version 2	Changed	Internal View image has been updated
04-Feb-2019	Version 1	New	New QuickSpecs.

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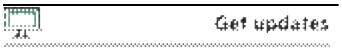

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